Better Homes and Gardens®

WOOD®

THE #1 MAGAZINE FOR HOME WOODWORKERS

$3.95

AUGUST 1989 • ISSUE NO. 30
Display until August 15

OUR RESIDENT PRO TEACHES CABINET CLEANUP TRICKS

CELEBRITY CRAFTSMEN SHINE IN THE WORKSHOP, TOO

GOOD REASONS TO BUILD WITH TREATED WOOD

LOOK WHAT'S NEW IN PORTABLE BELT SANDERS

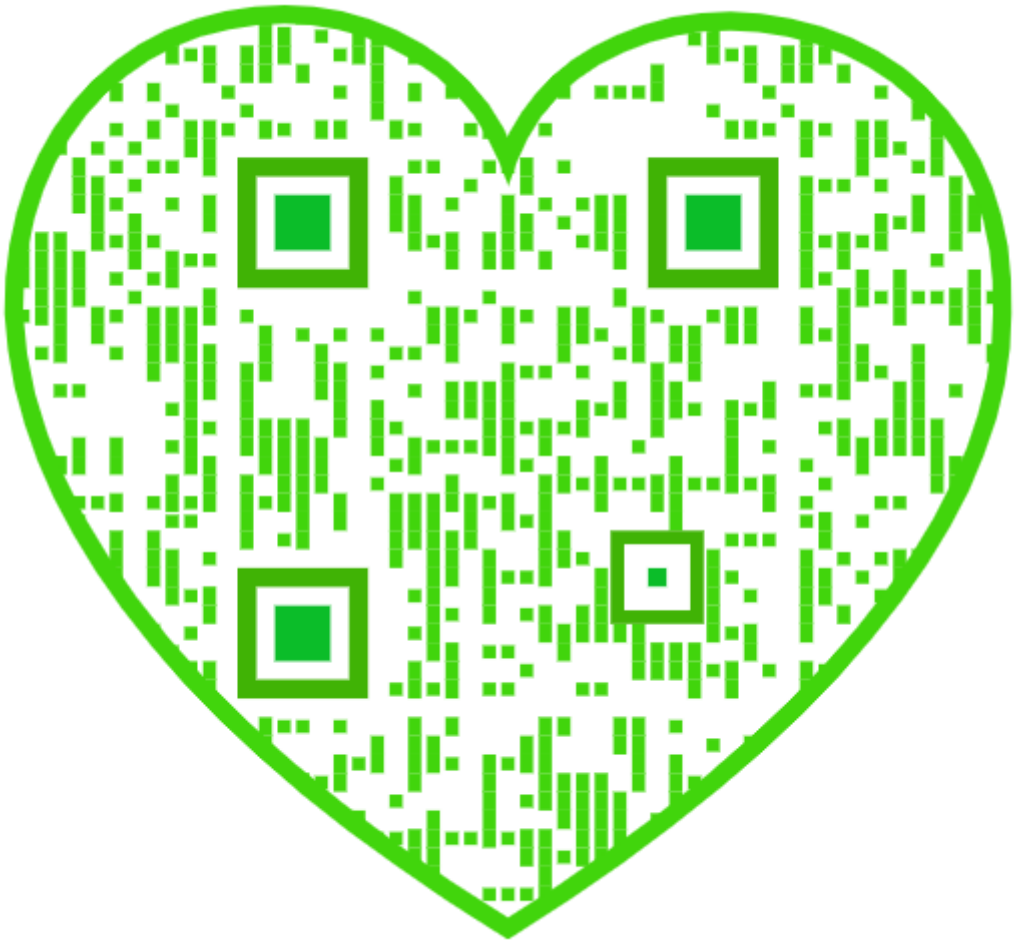
VISIT WALT EASLEY, A KNIFEMAKER ON THE CUTTING EDGE

FIRST-RATE PROJECTS
Shaker dining chair
Fisherman's rod rack
Strip sander
Carved whale

CRAFT A FAMILY HEIRLOOM FOR THAT SPECIAL SOMEONE

See our cradle project on page 60

08
14005 14072 2



PEOPLE WHO MAKE A LIVING WITH POWER TOOLS REACH FOR MAKITA.

A worker is only as good as his tools. That's why more professional builders use Makita power tools than any other cordless.

Who can blame them. Since the development of our first cordless tool, we've continued to improve and expand our product line.

We now offer two complete cordless power tool systems. Each powered by its own separate interchangeable battery. An extensive 16 tool, 7.2 volt system and a powerful 9 tool, 9.6 volt system. Plus a complete line of cordless tool accessories.

The benefits and advantages of Makita cordless tools are obvious. But don't take our word for it. Ask someone who depends on cordless power tools to make a living.

makita

IT'S ALL THE POWER YOU NEED.®

Makita U.S.A., Inc., 14930-C Northam St., La Mirada, CA 90638-5753, (714) 522-8088

ARM WRESTLING INTERNATIONAL

Makita is proud to sponsor both the Pro Football and Pro Baseball Arm Wrestling Championships which are aired on the ESPN TV Network.

Total Shop

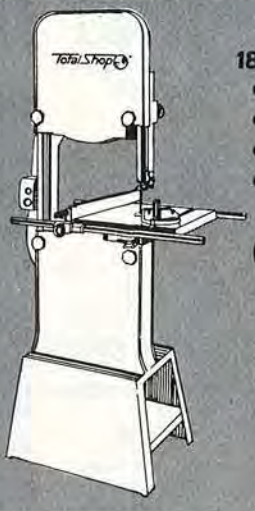
FREE 24 pg. Color Catalog

List
$1315
$915

In less than a minute The Total Shop Multipurpose machine can be converted into

- Disc Sander
- 34" Lathe
- Overhead Pin Router
- 16½" Drill Press
- 10" Table Saw

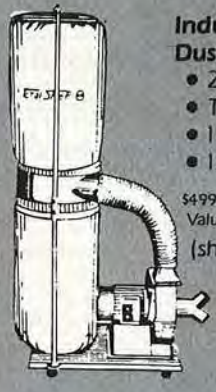
The Total Shop multi purpose machine is strong, precise and versatile, not to mention priced so that owning your own woodworking shop is a real possibility and not a problem.



18" Band Saw
- 1½ hp
- 18" x 18" table size
- ⅛"-1½" blade size
- 400 lbs.

$674.00
(ships freight collect)

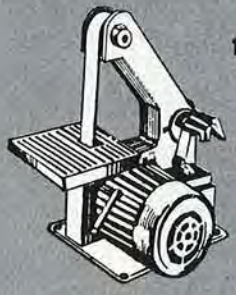
16"
$510.00
(ship freight collect)



Industrial Dust Collector
- 2 hp, 110v
- Two 4" inlets
- 1185 CFM
- 125 lbs.

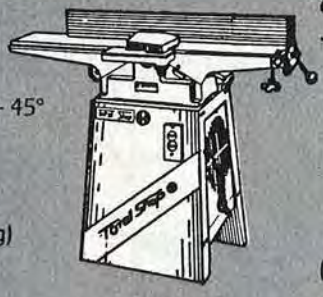
$499.00 Value **$339.00**
(ships freight collect)

Call Toll Free ☎ **1-800-845-9356** or in S.C. 288-4174



1" Belt Sander
- ⅓ hp
- 16 lbs.
- Table tilts 0° - 45°
- Die-cast aluminum

$59.95
(UPS shipping)

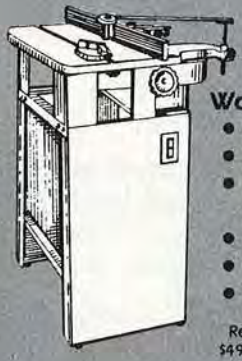


6" Long Bed Jointer
- ¾ hp, 110v
- Fence tilts 45° both ways.
- Fully adjustable
- 190 lbs.

Reg. $499.00 **$299.00**
(ships freight collect)

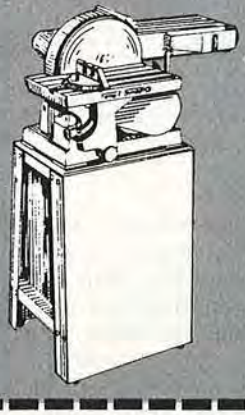
Dust Collector
- 1 hp, 110v
- 4" inlet
- Commercial quality
- Compact size

Reg. $348.00 **$209.00**
(Shp. & Hdlg. $30.00)



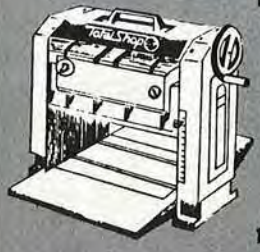
Wood Shaper
- ½" Spindle
- 1 hp
- Cast iron construction
- Precision fence
- 160 lbs.
- Ball bearings

Reg. $499.00 **$259.00**
(ships freight collect)



6" Belt & 9" Discs Sander
- ¾ hp
- 6" x 48" belt
- Cast iron construction
- 152 lbs.
- 9" Sanding Disc Included
- Ball Bearings

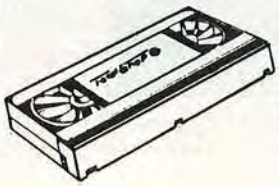
$199.00
(ships freight collect)



12" Thickness Planer
- Depth of cut ⅛"
- Feed rate 26 fpm
- 69 lbs.
- Safety Switch
- All ball bearing

$359.00
(Shp. & Hdlg. $20.00)
15" and 20" Planers also available.

1 Hour Video Brochure



☐ **YES!** Please send me your free 24 page catalog.

☐ **YES!** Please send me your 1 hour video brochure. (Enclose $10.00 refundable deposit - specify VHS or Beta)

Total Shop®
Dept. #3
P.O. Box 25429, Greenville, SC 29616

Name _____
Address _____
City _____
State/Zip _____
Phone _____

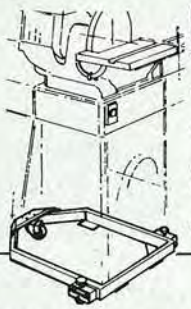
NOW! REDUCE THE RISK AT YOUR TABLE SAW

WITH THE NEW **MOBILE™ SAWING CENTER**

OUTFEED ROLLERS

- safe, accurate sawing
- handle panels with ease
- available in 15" and 37" widths
- dual-position table

AND INCREASE FLOOR SPACE



MOBILE MACHINE BASES

- increase shop working area
- maximize usable floor space
- 3 point base will not rock
- locking wheels
- makes machine so easy to use and store
- over 80 standard models

PLANER STAND WITH ROLLERS

- raises planer to proper working height
- provides machine mobility
- five-fold increase in workpiece support
- storage is a snap

NEW

ROLLERTABLE
Rock Solid Support

- adjustable
- portable
- use at any machine

PEDESTAL ROLLER

Discover HTC's many unique products designed only with you, the dedicated woodworker in mind. Find out how you can make your machining safer, increase working area of your shop and accomplish nearly impossible tasks easily, quickly and accurately - **all by yourself!**

CALL TODAY!

HTC PRODUCTS, INC.
120 E. HUDSON S-8
ROYAL OAK, MI 48067
(313) 399-6185

MAKES IT MOBILE

1-800-624-2027 ext. 108

Better Homes and Gardens®

WOOD®

THE #1 MAGAZINE FOR HOME WOODWORKERS

This issue's cover wood grain: bird's-eye maple

AUGUST 1989 ISSUE NO. 30

WOOD PROFILE

MAGNOLIA—THE WOOD THAT SETS BEES BUZZING 29

Long recognized as the most splendid tree growing in America's forests, magnolia also earns high marks for its smooth grain and stability.

CRAFTSMAN CLOSE-UP

THE 400-FISH-FILLET KNIFE WITH THE MIRACLE-WOOD HANDLE 30

Walt Easley knows hunting and fishing inside and out—and appreciates the value of a good knife. We spent two days in Walt's shop to find out why outdoorsmen like Virgil Ward and Willie Nelson depend on Easley knives.

CABINET CLEANUP TRICKS 34

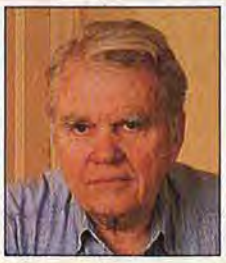
Jim Boelling, *WOOD®* magazine's project builder, shares tried-and-true preparation techniques he learned in a cabinetmaker's shop. Follow Jim's suggestions and assemble professional-quality cabinetry every time.

SHAKER SIMPLICITY 38

Here it is: We promised a Shaker-style chair to complement the trestle table featured in our April issue. With a router's help, you can build these ladder-back chairs using oak dowels.

PRESSURE-TREATED WOOD: WHAT YOU SHOULD KNOW BEFORE YOU NAIL 46

If you're itching to complete an outdoor project, read about safety concerns and construction suggestions before building with "green wood."



LIMELIGHT ON THEIR FACES, SAWDUST IN THEIR VEINS 48

Have you ever thought about why you love woodworking so much? Well, Andy Rooney has! Find out why he and five other notable woodworkers just can't stay out of the woodshop.

WHAT'S NOT ON A LABEL 52
Avoid the finishing catastrophe one of our readers shared with us. Tips from industry experts help you overcome labeling loopholes.

TOOL BUYMANSHIP
PORTABLE BELT SANDERS 54
Nearly five years have passed since we last tested portable belt sanders. Oh my, has the market changed! You're going to love all the features available today.

DOLL CRADLE 60
Here's a classic in the making. Our adaptation of a traditional Scandinavian design certainly will become a heirloom. And, you'll find lots of drawings to ease you into construction.

DEVELOP YOUR SHOP SKILLS
BLOW OFF THE DUST AND PUT THOSE PIPE CLAMPS TO WORK 66
Clamps represent a sizable, yet under-used investment in your shop. Don't overlook the tasks we've put together for these workshop workhorses.

FISHERMAN'S ROD RACK 68
Catch some shop time and build this dazzler for your fishing rods. It's just about as rewarding as any fish worth mounting.

HOMEMADE TOOLS
STRIP SANDER 71
Here's a specialized sander that you can put to work right away for your next cabinet cleanup project. You'll find plenty of opportunities to use this 1½"-wide dandy.

DRILL PRESS HEROICS—PART II 74
One year after publishing 17 nifty drill-press techniques, we want you to see five more top-notch tips submitted by fellow readers.

CARVING PATTERN
CARVE A WHALE 76
As a kid, Bruce Stamp chopped up a table leaf for a woodworking project. Now he carves whales from Mozambique and other interesting woods.

SHORT-SUBJECT FEATURES

Editor's Angle 6
Talking Back 10
Tips from Your Shop (And Ours) 14
Uneven Sander Patterns . . . 80
Products that Perform 83
Wood Anecdote 90
Finishing Touches 104

		QTY.	TOTAL
3-1/2" Economy Shaker Peg	$16.00 / 100		
2-1/2" Medium Shaker Peg	$14.00 / 100		
1-3/4" Mini Shaker Peg	$ 8.00 / 100		
Large Bean Pot	$20.00 / 100		
Mini Bean Pot	$ 8.00 / 100		

3/4" x 1/8" Hearts	$ 3.50 / 100		
1" x 1/8" Hearts	$ 4.00 / 100		
1-1/4" x 1/8" Hearts	$ 5.00 / 100		
1-1/2" x 1/8" Hearts	$ 5.90 / 100		
1-3/4" x 1/8" Hearts	$ 9.50 / 100		
2" x 1/4" Hearts	$12.90 / 100		

1" Maple Toy Wheels	$ 6.00 / 100		
1-1/4" Maple Toy Wheels	$ 7.00 / 100		
1-1/2" Maple Toy Wheels	$ 8.00 / 100		
Axle pegs for above wheels	$ 4.00 / 100		
1-1/2" Maple Spindles	$10.00 / 100		
2" Maple Spindles	$14.00 / 100		
3/8" Maple Buttons	$ 2.00 / 100		
1/2" Maple Buttons	$ 2.00 / 100		

Door Harp Parts!

3/4" prebored Door Harp Balls	$ 9.00 / 100		
Tuning pins	$17.00 / 100		
Wire-550 Ft. (.013 diameter)	$12.00 / roll		
Poplar Plywood 11-3/4" x 11-3/4"	$ 1.00 / each		
Set of 5 Door Harp Plans	$ 5.00 / set		
Door Harp Kit (Builds 2)*	$16.00 / each		
*Balls, Pins, Wire, Wrench, Plywood, Plans			
1" Full Round Balls	$12.00 / 100		
2" Full Round Balls	$10.00 / 10		
3" Full Round Balls	$ 3.00 each		

1-5/8" Sawtooth Hanger	$ 4.00 / 100		
Small picture Hanger	$ 2.00 / 100		
#17 Screw Eye 1/2" long	$ 2.00 / 100		
#14 Screw Eye 13/16" long	$ 3.00 / 100		
Small Eggs 1-3/8" x 2"	$ 8.75 / 25		
Large Eggs 1-3/4" x 2-1/2"	$12.50 / 25		
Apples	$ 1.50 each		

Total for Goods	
Texans Only - Add 7% Sales Tax	
Handling and Insurance	**$3.00**
Total	

ALL NEW WOOD PARTS CATALOG $1.00 (Free With Order)

B49

MC OR VISA ☐ CHECK ENCLOSED ☐

ACCOUNT # _____

EXPIRES _____ PHONE _____

NAME _____

SHIP TO _____

CITY/STATE/ZIP _____

Woodworks

4500 Anderson Blvd.
Fort Worth, Texas 76117
(817) 281-4447

Grizzly IMPORTS, INC.

OUR SUMMER SALE IS ALWAYS A BIG HIT. AT THESE PRICES IT'S NOT SURPRISING!

SALE PRICES EXPIRE SEPT. 10TH, 1989.

6" x 47" JOINTER

1 H.P. motor. All cast-iron construction. Weighs 260 lbs.

MODEL G1182

Regularly $335.00

ONLY $310.00

8" x 65" JOINTER

1½ H.P. motor. All cast-iron construction. Weighs 460 lbs.

MODEL G1018

Regularly $665.00

ONLY $625.00

6/9 COMBINATION SANDER

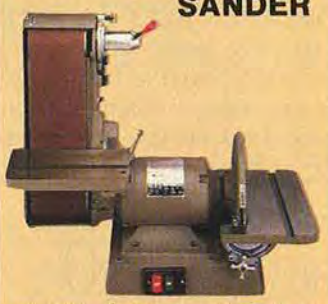
6"x48" belt, 9" disc. ¾ H.P. motor. Machine weighs 140 lbs.

MODEL G1014

Regularly $195.00

ONLY $175.00

6/12 COMBINATION SANDER



6"x48" belt, 12" disc. Quick belt release lever. Weighs 155 lbs.

MODEL G1183

Regularly $395.00

ONLY $335.00

15" PLANER

New 2 speed model. 2 H.P. motor with magnetic switch. Weighs 500 lbs.

MODEL G1021

Regularly $695.00-without stand

NOW - ONLY $695.00 AND WE'LL THROW IN THE STAND

20" PLANER

3 H.P., 2 speeds. Weighs 900 lbs.

MODEL G1033

Regularly $1295.00

ONLY $1175.00

20" DISC SANDER

2 H.P. pedestal model. Weighs 500 lbs.

MODEL G1548

Regularly $975.00

ONLY $895.00

¾ H.P. SHAPER

½" spindle, precision cast-iron table, reversing switch. Weighs 155 lbs.

MODEL G1024

Regularly $245.00

ONLY $225.00

10" HEAVY DUTY TABLE SAW

Precision ground cast-iron table and wings. 1½ H.P. motor. Weighs 255 lbs.

MODEL G1022

Regularly $345.00

ONLY $325.00

10" SUPER H. D. TABLE SAW

Precision ground cast-iron table and wings. 3 H.P. motor. Weighs 500 lbs.

MODEL G1023

Regularly $850.00

ONLY $825.00

18" BANDSAW

1½" re-sawing blade capacity. 2 H.P. motor. Shipping weight is 380 lbs.

MODEL G1012

Regularly $625.00

ONLY $575.00

3 H.P. SHAPER

2 spindle speeds plus reversing switch. Comes with ½", ¾" and 1" spindles. Weighs 450 lbs.

MODEL G1026

Regularly $850.00

ONLY $825.00

All above prices are F.O.B. our Bellingham, WA or Williamsport, PA Warehouse.

OUR 1989 FULL COLOR CATALOG IS LOADED WITH GOODIES AND IT'S FREE!

CALL US & EXPERIENCE EXCELLENCE

CALL TOLL FREE (FOR ORDERS AND CATALOG REQUESTS ONLY)

EAST OF THE MISSISSIPPI: 1-800-523-GRRR (717) 326-3806

← (For Orders & Catalogs Only) →
← (For Inquiries & Customer Service) →

WEST OF THE MISSISSIPPI 1-800-541-5537 (206) 647-0801

89-107

Better Homes and Gardens®
WOOD®

THE #1 MAGAZINE FOR HOME WOODWORKERS

August 1989 • Vol. 6, No. 4 • Issue No. 30

Editorial/Art Staff

Editor **LARRY CLAYTON**
Managing Editor **CARL VOSS**
Art Director **C. L. GATZKE**
Design Editor **JAMES R. DOWNING**
Features Editor **PETER J. STEPHANO**
How-To Editor **MARLEN KEMMET**
Products/Techniques Editor **BILL KRIER**
Project Builder **JAMES E. BOELLING**
Senior Graphic Designer **PERRY A. McFARLIN**
Administrative Assistant **DARLENE REYNOLDS**
Business Office Clerk **JODI DOWNING**

Technical Consultants: Product Testing **GEORGE GRANSETH;** Wood Technology **PAUL L. McCLURE;** Collectible Tools **PHILIP WHITBY**

Publisher **JERRY KAPLAN**
National Advertising Manager **TERRY McINTYRE**
Advertising Representatives **NEIL A. ORNE, ERIC VERCH**
Promotion/Research Director **THOMAS R. TROLAND**
Marketing Research Manager **EILEEN SULLIVAN**
Marketing Services Manager **NANCY DALY**
Circulation Director **CLEM SEVDE;** Circulation Manager **ALAN BRUSH;** Newsstand Circulation Director **MICHAEL SENIOR**
Production Director **ROBERT C. FURSTENAU**
Editorial Research Director **C. RAY DEATON**

Weekend Woodworking Projects™
Managing Editor **JIM HARROLD**

Magazine Group Officers

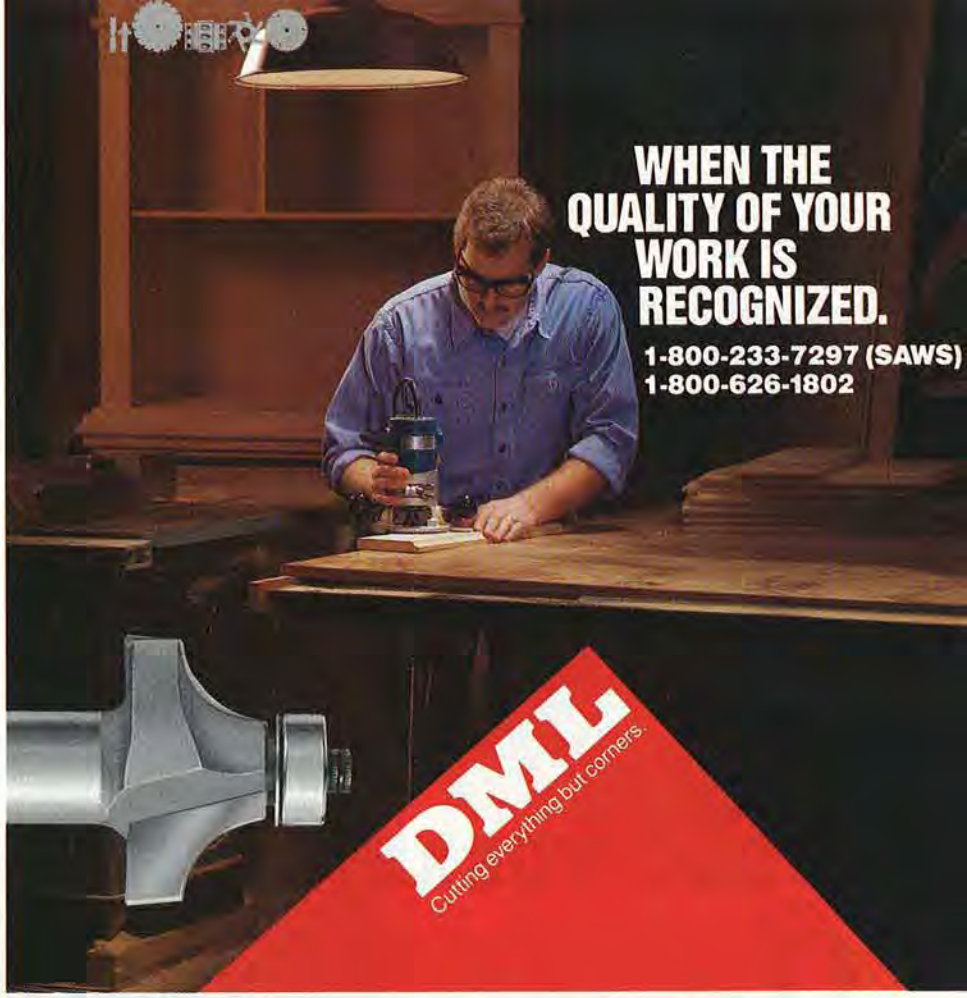
Group President **JAMES A. AUTRY**
Senior Vice President, Publishing Director **ADOLPH AUERBACHER**
Group Vice Presidents: Publishing Directors **MYRNA BLYTH, BURTON H. BOERSMA, CHRISTOPHER M. LEHMAN;** Controller **MAX RUNCIMAN;** Editorial Director **DORIS EBY;** Operations **DEAN PIETERS**

Chairman of Executive Committee **E. T. MEREDITH III**

Corporate Officers

Chairman of the Board **ROBERT A. BURNETT**
President and Chief Executive Officer **JACK D. REHM**
Group Presidents: Book **JERAMY LANIGAN;** Broadcasting **WILLIAM McREYNOLDS;** Magazine **JAMES A. AUTRY;** Real Estate **ALLEN SABBAG.** Vice Presidents: Administrative Services **GERALD D. THORNTON;** Corporate Relations **LEO R. ARMATIS;** Finance **JAMES F. STACK;** General Counsel and Secretary **THOMAS G. FISHER;** Product Development **NEIL KUEHNL;** Special Projects **FRED STINES;** Treasurer **MICHAEL A. SELL;** Controller and Assistant Secretary **LARRY D. HARTSOOK**

Better Homes and Gardens® WOOD® — the magazine for home woodworkers (ISSN-0743-894X) is published bimonthly in February, April, June, August, October, and December by Meredith Corpration, Locust at 17th, Des Moines, IA 50336. Second-class postage paid at Des Moines, Iowa. Better Homes and Gardens trademark registered in Canada and Australia. Marca Registrada en Mexico. **ONE-YEAR SUBSCRIPTION PRICES:** United States and its possessions, $18; Canada, $24; other countries, $30. **POSTMASTER:** Send address changes to WOOD, Locust at 17th, Des Moines, IA 50336. August 1989, Vol. 6 No. 4, Issue No. 30. **CUSTOMER SERVICE:** For service on your magazine subscriptions, including change of address, write to Customer Service Manager ROBERT AUSTIN, P.O. Box 10628, Des Moines, IA 50336. Please enclose your address label from a recent issue. If you wish to phone, call toll-free 800-678-2666.
©COPYRIGHT MEREDITH CORPORATION 1989. ALL RIGHTS RESERVED. PRINTED IN U.S.A.



Take the work out of woodwork.

Take the work out of repairing nicks, cracks and gouges with **Elmer's® Fill 'N Finish™ Wood Filler.** It spreads easily, requires little or no sanding and takes on any stain.

The Home Solution® is:

ELMER'S
THE HOME SOLUTION

For a 4 oz. sample of **Elmer's Fill 'N Finish Wood Filler,** send $2.00 with your name and address to Fill 'N Finish, The Fulfillment Center, P.O. Box 369003, Columbus, OH 43236-9003. Specify blond or tan. It's **THE HOME SOLUTION** to a beautiful finish.

NAME_____
ADDRESS_____
CITY_____ STATE_____ ZIP_____

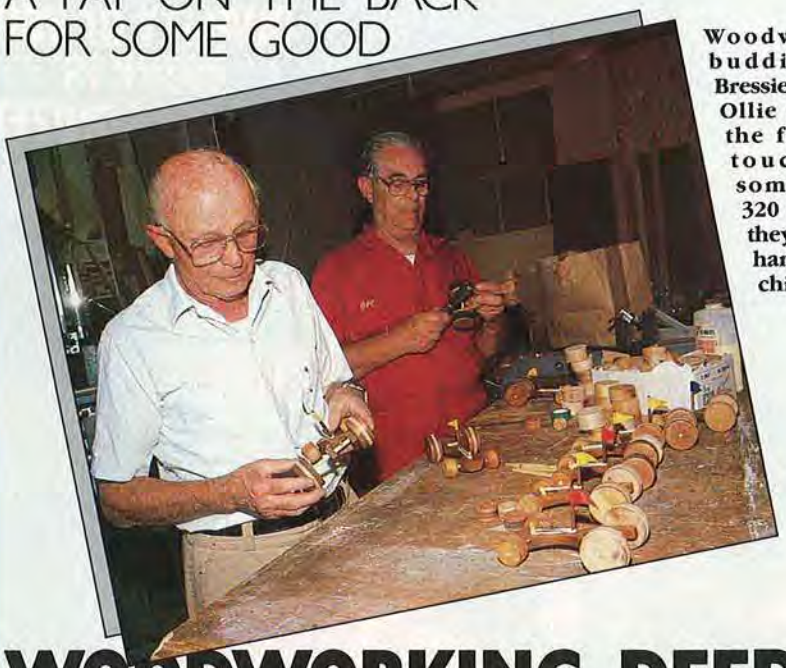
Offer good only in USA. Limit one per family. Offer expires December 31, 1989.

BORDEN®

© Borden Inc 1989

THE EDITOR'S ANGLE

A PAT ON THE BACK FOR SOME GOOD



Woodworking buddies Carl Bressie, left, and Ollie Coté put the finishing touches on some of the 320 dragsters they built for handicapped children.

WOODWORKING DEEDS

Of all the traits I admire about woodworkers, the one I respect most has to be their willingness to get involved with good causes and lend a helping hand. That's why I've decided to devote this month's column to some achievements that richly deserve mention.

First, the *WOOD*® magazine staff and I would like to say a great big ***THANKS*** to all of you who entered our Design-A-Toy Contest. When you readers found out that needy children would benefit from the competition, you opened up your hearts and sent in a total of 425 handcrafted toys. Now, that's something of which we can all be proud. (By the way, watch for the announcement of the winning entries in the October issue.)

Congratulations also to woodworkers (and Kiwanians) Carl Bressie, Ollie Coté (shown above), and Frank Imper from Tigard, Oregon, who built 320 of the rubber-band-powered dragsters (featured in our April 1987 issue) for kids attending the Kiwanis Camp for Handicapped Children near Mt. Hood. Whew! What a great project! It took these guys about 400 hours to do their good deed, but that's nothing compared to the hours of fun they made possible for their young friends.

Carl, who just turned 78 this year and who also claims a 44-year perfect attendance record in Kiwanis, reports that "the kids went crazy over the dragsters." He also mentioned to me that he has just finished building another 500 small projects that will be sold shortly to raise money for the same camp. (You'll never guess the motto of Kiwanis International—it's appropriately "We Build.")

And a big round of applause for toymaker Wes Booth, a *WOOD* magazine reader from Yakima, Washington, who since his retirement five years ago, has made and donated about 1,800 small toy cars and trucks a year to local hospitals and to the Salvation Army. Incredible, wouldn't you say? "All of this gives me great pleasure and something to do with my retirement," says Wes.

I rest my case! See you next issue.

Larry Clayton

Print this article

BOSCH
Woodworking

Trimming Laminates or Veneers?

Bosch 1608 Laminate Trimming System includes 5.6 amp motor and complete set of accessories for virtually all shop, installation tasks. Includes standard, tilting and offset bases.

New Jig Saw Minimizes Dust.

New Model 1581DVS features built-in collector for attachment to the Bosch Air Sweep™ Dust Extraction System. Vacuums away chips and dust from point of cutting; keeps a cleaner, safer working environment.

Choose Plunge Router Speed.

Model 1611EVS has EFC: Electronic Feedback Circuit. Maintains speed selected (12,000-18,000 rpm) to match work, bit size. Ergonomic design for superior control: lock-on trigger switch in right handle; plunge lever located near left.

Bosch Variable Speed Belt Sander: As Good At Fine Finishing As It Is At Finishing Fast.

One Finger Control Lets You Dial-In The Speed You Need.

Now you can rely on more than just the grit of your sandpaper—and the muscles of your arms—to control the quality of your sanding. Believing is getting your hands on the versatile Model 1273DVS variable speed belt sander by Bosch.

With six different speed ranges to choose from, the 1273DVS lets you take advantage of the power of a belt sander on jobs you might not have thought possible. Choose a lower speed with a fine grit for finishing sanding—or with a coarse grit to reduce heat build-up and clogging. Combine the higher speeds with a coarser grit for faster stock removal, no matter what the material. The speed selector dial is conveniently located just under the trigger. And the on-board sanding guide helps you select the right speed for your job.

→	
SOLID WOOD	4-6
VENEER	3-5
CHIP BOARD	5-6
PLASTICS	3-5
STEEL	3-6
PAINT REMOVAL	3-6

The powerful 10.5 amp motor gives you power—even for heavy-duty production sanding. And this sander's fine balance lets you control that power with minimal effort.

Use the 1273DVS with its own dust collection bag—or connect it to the Bosch Air Sweep™ Dust Extraction system. Change belts with the snap of a lever. And the unique belt tensioning system makes sure belts stay centered through all kinds of work.

So check out what a world class variable speed belt sander can do for the quality of your sanding. See your Bosch Distributor today—he's listed in the Yellow Pages "Tools—Electric." Let him show you how this belt sander gives you more control with one finger than others do with two hands.

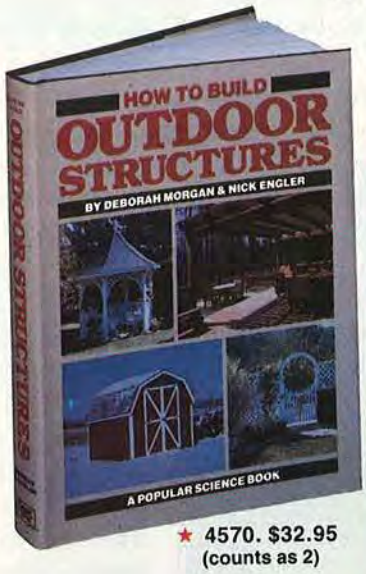
BOSCH

"Quality You Can Hold On To."

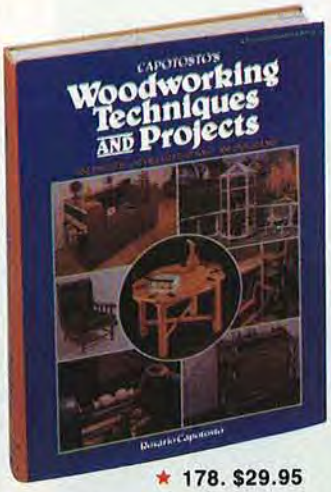
©1988 Robert Bosch Power Tool Corporation

The Number One Do-It-Yourself Book Club

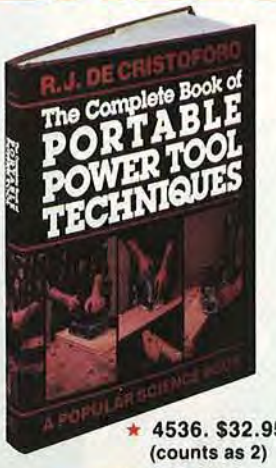
Take any



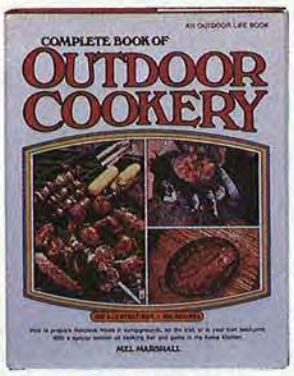
★ 4570. $32.95
(counts as 2)



★ 178. $29.95



★ 4536. $32.95
(counts as 2)

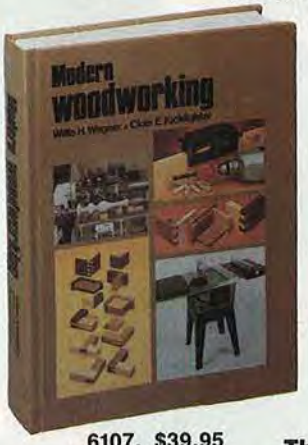


★ 166. $26.50

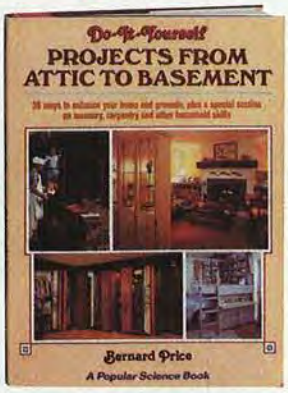
Popular science

BOOK CLUB

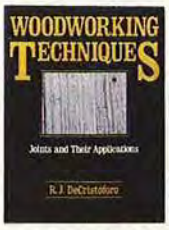
A Service of Grolier Book Clubs, Inc.
P.O. Box 1763, Danbury, CT 06816



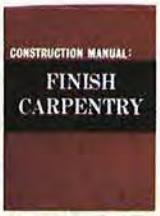
6107. $39.95



★ 4508. $29.95



268. $21.95



5753. $11.95

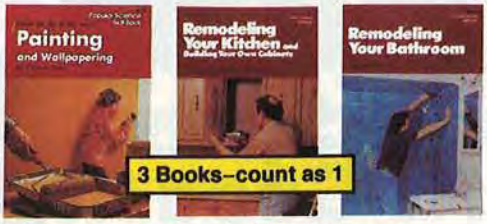
★ 89. $19.95

★ 97. $19.95

★ 105. $17.95

6148. $29.95

★ 113. $15.95



★ 1978. $17.85 Paperbound

5990. $32.95

6057. $19.95

5831. $19.95

193. $28.95

Mail card today!

The #1 DO-IT-YOURSELF BOOK CLUB

The Best How-To Authority... Popular Science Book Club is the largest and oldest special-interest book club serving successful do-it-yourselfers for more than 25 years!

The Best Do-It-Yourself Books... PSBC editors comb the country searching for the newest, finest and often hard-to-find books on today's important homeowner subjects: HOME REPAIR & IMPROVEMENT • HOME REMODELING, RENOVATION • RESIDENTIAL CARPENTRY • BASIC & ADVANCED WOODWORKING • HOME WORKSHOPS • HOUSE BUILDING • HOUSE WIRING, PLUMBING, HEATING, MASONRY & CONCRETE • APPLIANCE REPAIR and much more.

Exclusive "Popular Science Books"... PSBC serves its members best by commissioning the top how-to writers-photographers to produce definitive books on important Club subjects. See titles with ★. These are cream-of-the-crop, do-it-yourself books available nowhere else at Club discount.

Big Bargains—UP TO 75% DISCOUNT... PSBC cuts prices on hundreds of special book bargains offered throughout the year to the membership.

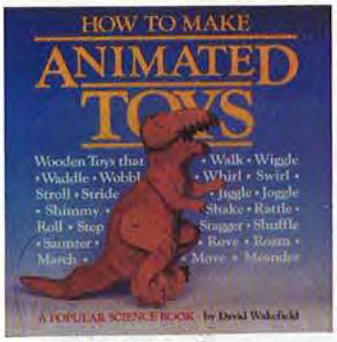
Quality Production Control... PSBC selections are printed with careful attention to detail on paper, printing, binding. You'll use these books for years!

NO-RISK GUARANTEE... PSBC guarantees your complete satisfaction—or you may return the books at our expense.

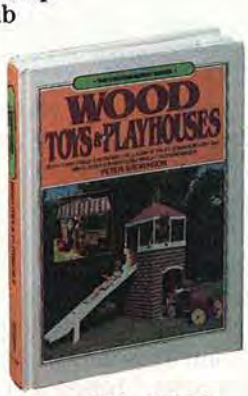
offers you super savings up to $107.90

3 for just $4.95 Values up to $112.85!

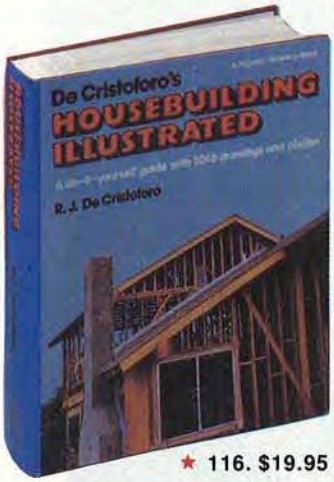
with No-Risk Free Trial Membership in Popular Science Book Club



★ 4538. $29.95 (counts as 2)

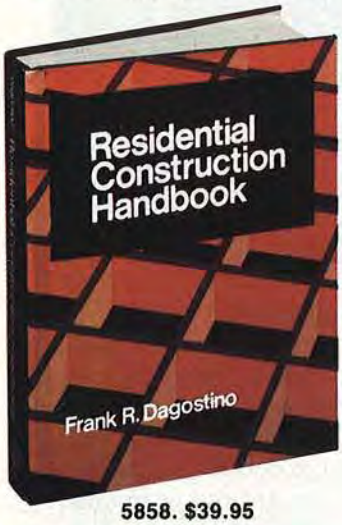


6023. $16.95

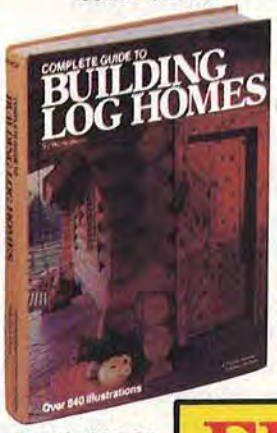


★ 116. $19.95

5878. $21.95

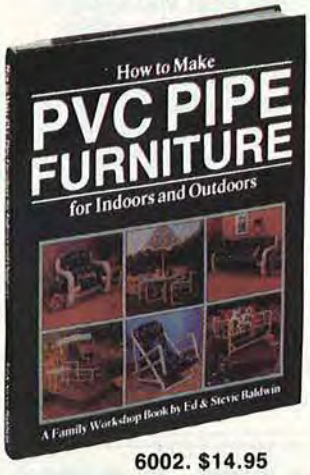


5858. $39.95



★ 190. $29.95 (counts as 2)

★ 4569. $14.95 Paperbound

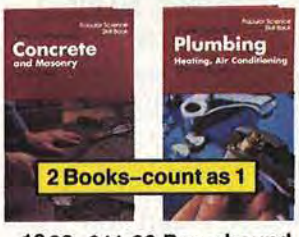


6002. $14.95

FREE when you join

The **BENCHTOP REFERENCE** gives you instant answers to hundreds of do-it-yourself questions on Woodworking, Joinery, Dowels, Veneers, Laminates, Fasteners, Sharpening, Grinding, Concrete, Electrical work, more! 48 big 8 x 10¾ pages. All illustrated! Super handy and indispensable.

6140. $32.95



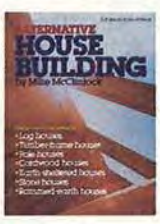
1988. $11.90 Paperbound

6022. $16.95

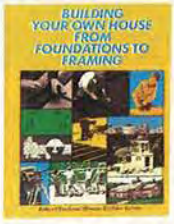
★ 109. $15.00

5882. $19.95

★ 84. $31.95 (counts as 2)



★ 194. $32.95



6033. $27.95 (counts as 2)

HOW Popular Science BOOK CLUB WORKS

ENJOY SAVINGS UP TO $100.90 NOW . . . When you take any 3 selections here for just $4.95 plus delivery and handling. Simply indicate your choices on the attached postage-free card and mail.

CLUB MEMBERS' BULLETINS. . . Fifteen times a year (about every 4 weeks), you'll receive a Club Members' Bulletin package describing the coming Main Selection and nearly 100 additional books you may choose from. If you want the Main Selection only, do nothing; it will be sent to you automatically. If you want another book—or no book—indicate your wishes on the form provided and return by date shown. You will always have at least 10 days to do this. Should the bulletin arrive late and you receive an unwanted selection, you may return it at our expense.

UP TO 75% DISCOUNTS. . . Club prices range from $5.99 for special book bargains offered at super savings up to 75% and even more . . . all the way to richly-produced, very special books that list as high as $50 and more—all offered to members at exclusive Club discounts.

FREE GIFT with cancellation privilege. . . You may cancel your membership at any time after buying just two more selections *of your choice* within a year. To try us with no obligation, simply mail the attached card—a valuable FREE GIFT is yours to keep just for looking. *Mail the card now!*

PS/S97D

Titebond®
Wood Glue, for results you'll be proud of.

Titebond® has been consistently used by people who demand fast grab, easy alignment, fast set and superior heat and solvent resistance. Titebond® is paintable, stainable, won't soften or gum up when sanded and bonds stronger than the wood itself. For professional results, demand Titebond® Wood Glue.

1-800-848-0678
614-443-0241 in Ohio

Franklin International
2020 Bruck Street / Columbus, Ohio 43207

WE HELP YOU FINISH.

With Deft Wood Stains, you have over 3 generations of wood staining and finishing experience helping you to get professional results. In addition, Deft Wood Stains dry in just 2 hours and are ready for a coat of clear finish. Clean-up is a snap; just soap and water, no dangerous solvents. Stain and finish in one day? With Deft you can--because we help you finish.

DEFT

Deft Salutes 4-H

and it's Over 68 Years of Service to America's Young People

Deft, Inc. Irvine, CA 92714 (800)544-DEFT
Deft, Inc. Alliance, OH 44601 (800)458-DEFT

TALKING BACK

We welcome comments, criticisms, suggestions, and even an occasional compliment. The volume of mail we receive makes it impossible to answer every letter, but we promise to do our best. Send your correspondence to: Letters Editor, Better Homes and Gardens® *WOOD*® Magazine, Locust at 17th, Des Moines, IA 50336.

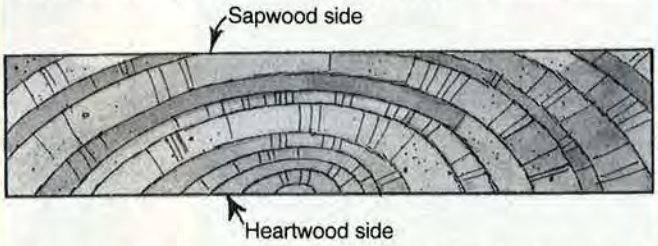
SOLVING PROBLEMS WITH THREADED INSERTS

I enjoyed making your blade height gauge in the April 88 issue of *WOOD* magazine. But, I ran into a problem when installing the ¼" threaded insert. Your instructions say to drill a 13⁄32" hole for the insert. Since I don't have a bit that size, I used a common ⅜" bit to drill the hole, then a 7⁄16" tap. The threads match the insert exactly and make it easy to install them without splitting the wood.

—David Brooke
Newton, Ill.

MORE ON HEARTWOOD AND SAPWOOD

Two readers have questioned us about a statement in the relief-carving article we published in the February 1989 issue. We reported that Jim Rose, our consultant on the article, has had his best results carving on the sapwood side of a board to counteract the natural tendency of wood to cup toward the heartwood side. That's incorrect as John Sillick of Gasport, N.Y., and Ron Genge of Edmonton, Alberta, pointed out.



In separate letters, both woodworkers make a good argument about wood naturally cupping toward the sapwood side. We've found others—including the Forest Products Institute—who agree that young cells on the outside of the tree generally shrink quicker than denser heartwood cells and cause a board to shrink toward the sapwood or bark side. Jim Rose still stands firm on his experience: He has fewer shrinking problems by carving on the sapwood side. And, because the heartwood side has more growth rings, gouges have more chances to shoot off course.

Continued on page 12

The New Performance Edge

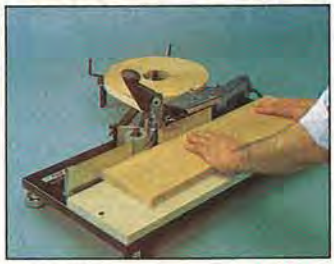
Freud Edge Banding System.

Temp Range	212° to 1100° F
Input	115 Volts AC
Max. Tape Width	2¼ inches
Machine Size	10″ H × 27″ W × 15″ D
Weight	26 lbs.

Freud introduces the ultimate in edge banding and banding tapes. No more expensive machines or awkward, unsafe hot iron applicators.

The Freud Edge Banding System (EB100) allows you to apply wood and polyester edge finishes to veneered or plastic laminate boards quickly and easily.

The principle is **simple**! The hot melt adhesive on the edge banding is softened and activated when it passes the hot air of the heat gun. A pinch roller then presses the edge banding against the veneered or laminated board. The adhesive creates a permanent bond in seconds. **Quick, easy, and affordable!**



The Freud Banding System is great for the small shop or as an addition to larger shops where set-up time is critical.

To assure a perfect job, Freud Edge Banding has been designed to give you maximum results when used with the Freud System. The genuine wood veneers are finger jointed into continuous rolls and end matched for color and grain continuity. It is bonded to a fleece backer, sanded and coated with high quality hot melt adhesive.

The polyester edge banding is available in the most popular colors. The decorative papers are impregnated with polyester resins and laminated to a .010 inch thick backer sheet. It is then coated with the same high quality hot melt adhesive.

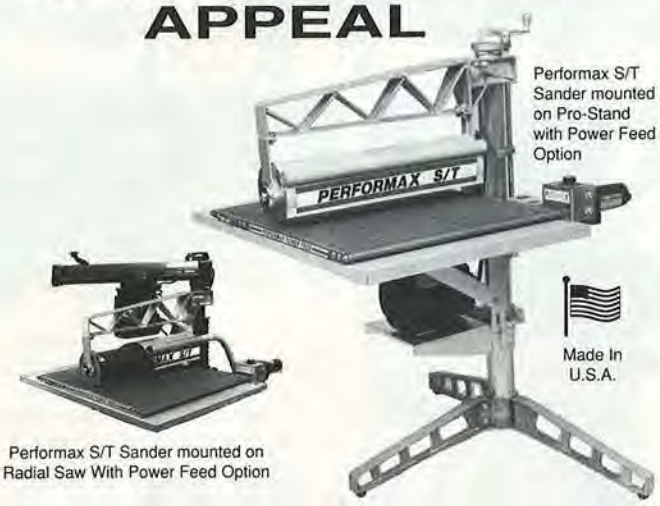
The Freud Banding and the Freud Edge Banding System. Together, they give you the performance you need at a cost you can afford! List price: **$349.99** Call for the name of your local distributor.

freud®

Precisely what you need.

High Point, NC • (919) 434-3171

THE SANDER WITH WIDE APPEAL



Performax S/T Sander mounted on Pro-Stand with Power Feed Option

Made In U.S.A.

Performax S/T Sander mounted on Radial Saw With Power Feed Option

44" TO BE PRECISE

Uniform thickness accuracy to within .010 of an inch–precision that you almost have to see to believe. Or take the word of thousands of woodworkers who are achieving flawless sanding results in their cabinet shops, craft shops, home workshops, custom furniture shops and in musical instrument making.

The Performax Component Sander appeals to such a wide variety of woodworkers because it allows you to select the components to fit your needs now with retrofitting options for potential heavier use later.

Plus, your sanding width won't ever be limited with the 44" wide sanding capacity, due to the open-end design of the Performax S/T Sander, which is just one of the many innovative features that makes the Performax Component Sander a wise investment and an excellent choice for all types of woodworking.

For More Information or the Dealer Nearest You
Call 1-800-334-4910 or Write to:

Performax Products, Inc., 11975 Portland Ave. S., Suite 142, Burnsville, MN 55337

IF YOU VALUE YOUR FINGERS..... YOU NEED A RIPSTRATE®

The RIPSTRATE holds the work tight against the fence with no hands near the blade. Makes perfect, straight cuts. Wheels lock to prevent kickbacks. *Requires no adjustment for stock width or thickness.*

Over 30,000 now in use in amateur, professional, school, government, military, and corporate maintenance shops.

One year guarantee, 30 day money back trial. $69 plus $3.50 for shipping. Check, M.O., Visa or M.C. Free Brochure.

Write or call our toll free number: 800-421-0256.

Fisher Hill Products 4 Fisher Hill Fitzwilliam, NH 03447
Dealer inquiries invited.

TALKING BACK

Continued from page 10

POACHING PINK IVORY TREES?

The April 1989 issue of *WOOD* magazine had an item titled "Out of Africa" about Carlton McLendon, *right,* and his pink ivory. This article particularly disturbed me, since it condones bribing political officials for personal gain. That's wrong! Explain the difference between this and ivory poachers.

—Glenn Maynard, Independence, Iowa

Pink ivory may be considered a rare wood, only because it doesn't grow in commercial quantities. We stated that 50 pink ivory trees were all that were left in the land inhabited by the Zulus. Instead, Glenn, we should have stated that 50 mature pink ivory trees would be about all that could be expected to grow there at any time, according to our sources. Indeed, few trees of any type grow in the arid, savannah-type land preferred by the pink ivory tree (Rhamnus zeyheri). The bottom line: Pink ivory isn't facing extinction. More accurately, it's rarely cut.

Here's why. Zulu tribal law stipulates that it's a crime punishable by death for anyone but a Zulu chief to possess it. Zulu tradition says that only a chief may cut down a pink ivory tree, and then only when his son reaches manhood. As the story goes, the son then fashions a spear from the wood, and the remaining wood decays. Tribal members may not even burn pink ivory for fuel, or ZAP!

Pink ivory appears in small pieces at wood auctions. And, members of the International Wood Collectors Society occasionally list small amounts of it for sale in mail-order auctions. Other than McLendon's story, we're not sure how trickles of this wood reach the international marketplace.

Carlton McLendon says he did not bribe a member of South African parliament—the wood was a gift. Carlton, as a wood collector as well as a wood retailer, was thankful for the present, and sent some knives in appreciation. We believe we only reported on an interesting story about how rare—not endangered—wood gets into circulation.

SPOTTY PROBLEM: STEEL WOOL, 3M SAFEST STRIPPER

Recent laboratory tests with steel wool and 3M's Safest Stripper confirmed that the two may cause dark spotting on wood surfaces. According to 3M, water in the stripper and tannic acid (a chemical found in wood) react with fragments of steel wool left in the wood. Fresh-squeezed lemon juice, oxalic acid, or muriatic acid (diluted 20:1) will remove the spots.

For more information, contact 3M at 800-842-4946. *WOOD* magazine tested the new 3M finish remover in the February 1989 issue.

SQUARE DRIVE SCREWS

- Square Recess Reduces "Cam-Out"
- Heat Treated for Strength
- Deep Thread for Exceptional Holding Power
- Sharp Point is Self Starting-even in most Hardwoods

Special: 600 screws-(100 each of 6 sizes), 1 power driver bit and1 hand driver.

Size	Length	Price
#6x	1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2	13.35
#8x	3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2	16.65
#10x	1-1/4, 1-3/4, 2, 2-1/4, 2-1/2, 3	23.65

UPS Ground Service Only

Order Total	S & H
$.01 to $20.00	$3.00
$20.01 to $50.00	$4.50
$50.01 to $80.00	$6.00
Over $80.00	$7.50

Va. Residents add 4.5% Tax
Visa & MC accepted

McFEELY HARDWOODS 712 12th St.• PO Box 3 Lynchburg • Va. 24505

Toll Free 1-800-443-7937
FAX (804)-847-7136 WD689

EASY TO BUILD

LIFELONG ENJOYMENT

Lyres
Harps
Banjos
Violins
Psalteries
Dulcimers
Many other Musical Instrument Plans, Kits & Supplies

Send $1.00 for catalog

ST. CROIX KITS
Dept. B3
423 S. Main St.
Stillwater, MN 55082
(612) 439-9120

ORDER TODAY

From the Acclaimed Maker of
18th Century Reproduction Furniture Kits

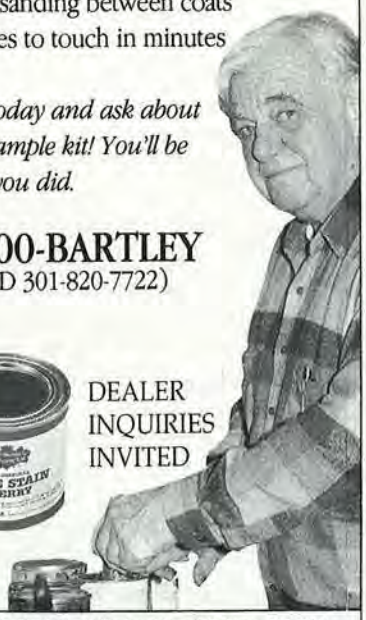
BARTLEY
PASTE STAINS & VARNISHES

- No offensive odor • Recoat in 4 hours
- No brushes • No sags or bubbles
- No sanding between coats
- Dries to touch in minutes

Call today and ask about our sample kit! You'll be glad you did.

1-800-BARTLEY
(In MD 301-820-7722)

DEALER INQUIRIES INVITED



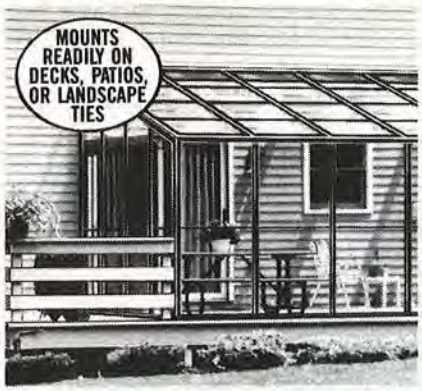
Dept. 4142, The Bartley Collection, 3 Airpark Dr. Easton, MD 21601

ENERGY-SAVING **SUN-PORCH™**

CONVERTIBLE SUNSPACE

More value for less money!

INSULATED WINTER SUN SPACE CONVERTS TO A SUMMER SCREEN ROOM!



☐ Bronze aluminum ☐ Shatter-resistant 1" thick double-wall glazing ☐ Do-it-yourself assembly ☐ Ideal greenhouse, spa/hot tub room, entry way.

Send $2 for Color Catalogues, Prices, SENT FIRST CLASS MAIL.
Dealer Inquiries Welcome

SUNBEAM STRUCTURES DIVISION
VEGETABLE FACTORY. INC.
P.O. Box 2235, Dept.WOO
New York, NY 10163

The Convenience of Individuals... The Sense of a Combination...

K5 WOOD MACHINING CENTER

Turn your "dream" projects into finished projects with the power and precision of a professional cabinet shop!

You can saw, plane, mold, and mortise with ease and accuracy -- yet the K-5 is a compact combination that takes up less than 12 square feet and runs on 110 Volt AC power.

Find out how you can use this tool for 30 days -- without risk!

Call or Write for Complete Information ...

1-800-USA-KITY

Mail Coupon To:

KITY FARRIS MACHINERY

309 N. 10th•Blue Springs, MO 64015

☐ **Free Information Pack**
☐ **VHS Video Pack - $14.95**

Name _____

Address _____

City _____

State ___ ZIP____ Phone_____

B489

FREE
64 PAGE CATALOG

LOWEST PRICES

Let us introduce you and your family to the exciting hobby of clockmaking. It's easy - fun - and a great source for extra income. You'll find our service is fast and friendly, so send for your free catalog today!
(Over 17 years the leader)

Name_____
Address_____
City _____State _____Zip _____

KLOCKIT™ Dept.WD89
P.O. Box 542, Lake Geneva, WI 53147

EARN CASH, PRIZES FOR YOUR TOP SHOP TIP

Do you have a great shop tip (or two) you'd like to share with other *WOOD*® magazine readers? For each published submission, you get:

- $25 from *WOOD*® magazine;
- A matching $25 gift certificate from one of our mail-order advertisers—this time from Hiller Hardware;
- And, a chance to be selected as the Top Shop Tip winner for the issue. This issue's winner will receive a Bosch 3-hp plunge router as shown *below.*

We try not to use shop tips that have run in other magazines, so please send your tip to only one magazine. We cannot return shop tips. Mail your tips, address, and daytime phone number to:

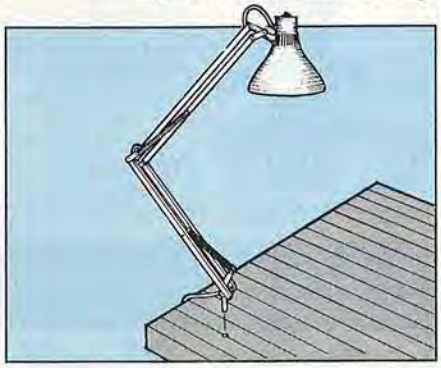
Top Shop Tip
Better Homes and Gardens®
***WOOD* Magazine**
Locust at 17th
Des Moines, IA 50336

SHED SOME LIGHT ON THE SUBJECT

Overhead lighting often does not offer adequate illumination for doing fine closeup work. Adjustable reading lamps help, but positioning them where needed can tie up a lot of clamps, not to mention your patience! Here's a smarter way.

TIP: It's easy to add an adjustable reading lamp to a work bench as shown *below.* Simply drill holes of the appropriate diameter to accept the shaft that normally goes into a clamp fitting. Drill these holes wherever you need the illumination. This arrangement provides a handy light that you can quickly reposition or remove as needed.

—Carlos Voss, Colton, Calif.



CAUTION FLAGS FOR LONG CLAMPS

Long pipe clamps and bar clamps often stretch well beyond the confines of the stock being held together. In fact, far enough to stick right into the path of some of us who have a knack for bumping and plowing into most anything (make that everything!) that gets in the way. Too often, we pay the price for this shortcoming in scrapes, bruises, and torn clothing.

TIP: Drape brightly colored rags over clamp ends to warn everyone to steer clear of the protrusion.

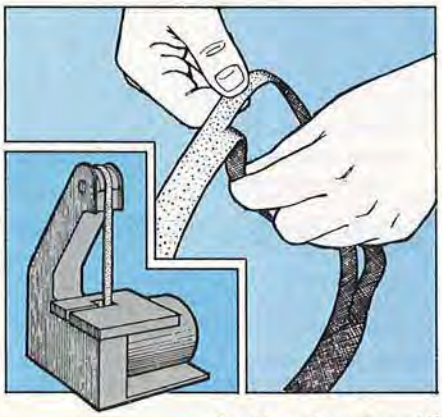
—From the* WOOD *magazine shop

NARROW SANDING BELT REACHES TIGHT SPOTS

One-inch-wide sanding belts do an excellent job of smoothing a variety of wood surfaces, including gentle curves. But when it comes to constricted openings and some small workpieces, an inch-wide belt may be too wide.

TIP: Slit the belt in half lengthwise to create a half-inch-wide sanding belt. Start by piercing the center back side of the belt with a sharp knife. Then grab the sanding belt on both sides and tear down the center as shown *below.*

—Terry Fenimore, Waukee, Iowa

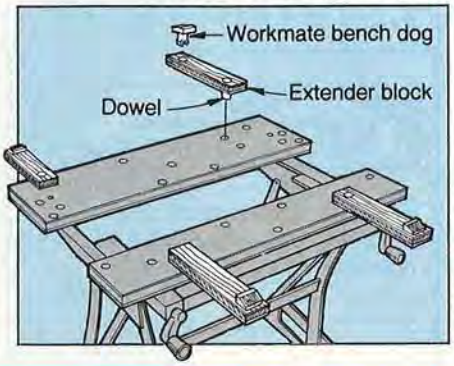


TOP SHOP TIP — WORKMATE EXTENDER EARNS READER A PRIZE

Black & Decker Workmates make great shop helpers, but how often have you wished its jaws would stretch a little further to hold that wide workpiece for sanding, drilling, or routing?

TIP: If you'd like to increase the holding capacity of your Workmate, just add extender blocks to the work surface. From ¾" plywood, cut four 1¾×8" pieces. Bore ¾" holes in both ends of each piece and glue a 1¼" length of ¾" dowel in one end, as shown *below.* Insert Workmate dogs in the remaining holes. Now, your Workmate will hold a workpiece as wide as 23". You can make the extenders even longer for more holding capacity.

—Robert K. Graul, Alton, Ill.



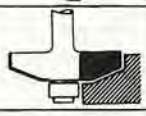
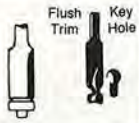
For his tip, Robert receives a Bosch model 1611 3-hp plunge router.

Continued on page 16

CARBIDE TIPPED ROUTER BITS

PROFESSIONAL PRODUCTION QUALITY

1000's SOLD TO READERS OF FINE WOODWORKING

BEST CUT BEST PRICE	ITEM NO.	DESCRIPTION	RADIUS	LARGE DIAM.	CUTTING LENGTH	PRICE
		COVE				
	#01	1/4" R	1/4"	1"	1/2"	$13.00
	#02	3/8" R	3/8"	1-1/4"	9/16"	14.00
	#03	1/2" R	1/2"	1-1/2"	5/8"	15.00
		ROUND OVER				
	#04	1/4" R	1/4"	1"	1/2"	$15.00
	#05	3/8" R	3/8"	1-1/4"	5/8"	16.00
	#06	1/2" R	1/2"	1-1/2"	3/4"	19.00
		ROMAN OGEE				
	#07	5/32" R	5/32"	1-1/4"	15/32"	$18.00
	#08	1/4" R	1/4"	1-1/2"	3/4"	20.00
	#11	3/8" RABBETING	Deep 3/8"	1-1/4"	1/2"	$14.00
	#09	1/8" (KERF) SLOT CUTTER		1-1/4"	1/8"	14.00
	#10	1/4" (KERF) SLOT CUTTER		1-1/4"	1/4"	14.00
	#12	45° Chamfer	45° Angle	1-1/2"	5/8"	$15.00
	#15	Raised Panel	20° Angle	1-5/8"	1/2"	$25.00
	#35	1/4" V Groove 90°		1/4"	1/4"	$ 8.00
	#36	3/8" V Groove 90°		3/8"	3/8"	9.00
	#37	1/2" V Groove 90°		1/2"	1/2"	11.00
	#16	3/8" Dovetail 9°		3/8"	3/8"	$ 7.50
	#80	1/2" Dovetail 8° (For Leigh Jigs)		1/2"	13/16"	12.00
	#17	1/2" Dovetail 14°		1/2"	1/2"	8.50
	#18	3/4" Dovetail 14°		3/4"	7/8"	10.50
		CORE BOX (ROUND NOSE)				
	#19	3/8" Core Box	3/16"	3/8"	3/8"	$11.00
	#20	1/2" Core Box	1/4"	1/2"	11/32"	14.00
	#21	3/4" Core Box	3/8"	3/4"	5/8"	18.00
	#056	Tongue & Groove (FOR WOOD THICKNESS FROM 1/2" to 1")		1-5/8"	1"	$30.00
	#24	1/4" Straight Bit		1/4"	3/4"	$ 7.00
	#25	5/16" Straight Bit		5/16"	1"	7.00
	#26	3/8" Straight Bit		3/8"	1"	7.00
	#27	1/2" Straight Bit		1/2"	1"	7.00
	#28	3/4" Straight Bit		3/4"	1"	10.50
	#13	1/2" FLUSH TRIM		1/2"	1"	$ 8.50
	#14	3/8" KEY HOLE (This Bit Only HSS)	CUTS 3/8" KEY HOLE FOR FLUSH MOUNTING PICTURE FRAMES, ETC.			$ 8.50

WHEN ORDERING ANY THREE OR MORE DEDUCT $1.00 EACH
ALL PRICES POSTAGE PAID

Professional Production Quality • 1/2" Ball Bearing Pilot • 1/4" Diameter Shanks x 1-1/4" Long • One Piece Construction • Two Flute Thick High Quality Tungsten Carbide Tips

To order by MasterCard or Visa Toll Free
7 Day—24 Hour Order Service Call
1-800-533-9298
or send check to:

CONTROL THE SPEED OF YOUR ROUTER

ROUT AT THE SPEED THAT GIVES THE BEST RESULTS WITH THE WOOD AND BIT YOU ARE USING!

- LESS TEAR OUT
- STOPS BURNING
- FEED AT COMFORTABLE RATE
- BETTER, SAFER RESULTS WITH LARGE DIAMETER PANEL-RAISING BITS
- LESS WEAR ON BITS
- LESS NOISE AND SOFTER STARTS AT LOWER SPEEDS

INTRODUCTORY PRICE **$39.95** POSTAGE PAID
Order Item #200 VALUE OVER $100.00

FEATURES:

- SPEED ADJUSTABLE FROM FULL SPEED TO 0 RPM
- 3 POSITION TOGGLE SWITCH: VARIABLE - OFF - FULL SPEED
- FULL HORSEPOWER AND TORQUE AT ALL SPEEDS
- GO BACK AND FORTH FROM ANY PRE-SET SPEED TO FULL SPEED AT THE FLIP OF A SWITCH
- WORKS WITH ALL ROUTERS 3 HP OR LESS
- 120V 15 AMP
- GIVES YOUR ROUTER A FEATURE ONLY AVAILABLE ON ROUTERS THAT COST OVER $500.00

EASY TO USE — SIMPLY PLUG IN SPEED CONTROL AND PLUG YOUR ROUTER INTO THE SPEED CONTROL — TURN DIAL FOR BEST RESULTS. (SPEED CONTROL HAS A CLIP THAT CAN BE WORN ON YOUR BELT OR HUNG ON WALL OR LEFT LOOSE.)

- REDUCES SPEED ELECTRONICALLY WITHOUT REDUCING TORQUE; ELECTRONIC FEED-BACK MAINTAINS SPEED BY INCREASING VOLTAGE TO MOTOR AS LOAD INCREASES.

MAKE BEAUTIFUL RAISED PANEL DOORS . . . WITH YOUR 1/4" ROUTER!

SET ALSO AVAILABLE IN ½" SHANK — **$79.95** — Item #154

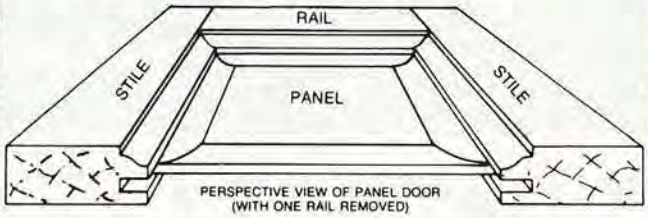
Professional production quality bit makes it quick and easy to produce matching rails and stiles — the panel raising bit with ball bearing guide makes the raised panel perfect every time.

Regular value Over $150.00

ORDER ITEM #054 for 1/4" Shank Set
(Includes all bits shown)

SAVE 55%

SALE PRICE **$69.95** FOR COMPLETE SET

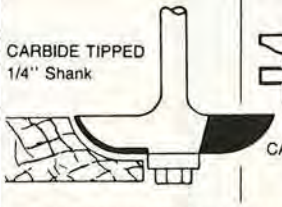


PERSPECTIVE VIEW OF PANEL DOOR (WITH ONE RAIL REMOVED)

RAISED PANEL BIT
SUPPLIED WITH BALL BEARING

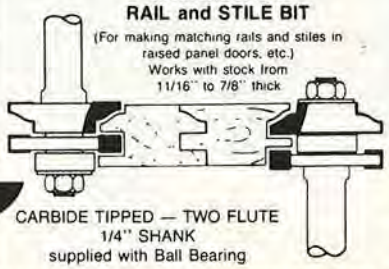
2" Large Diameter

CARBIDE TIPPED
1/4" Shank



REVERSIBLE COMBINATION RAIL and STILE BIT

(For making matching rails and stiles in raised panel doors, etc.)
Works with stock from 11/16" to 7/8" thick

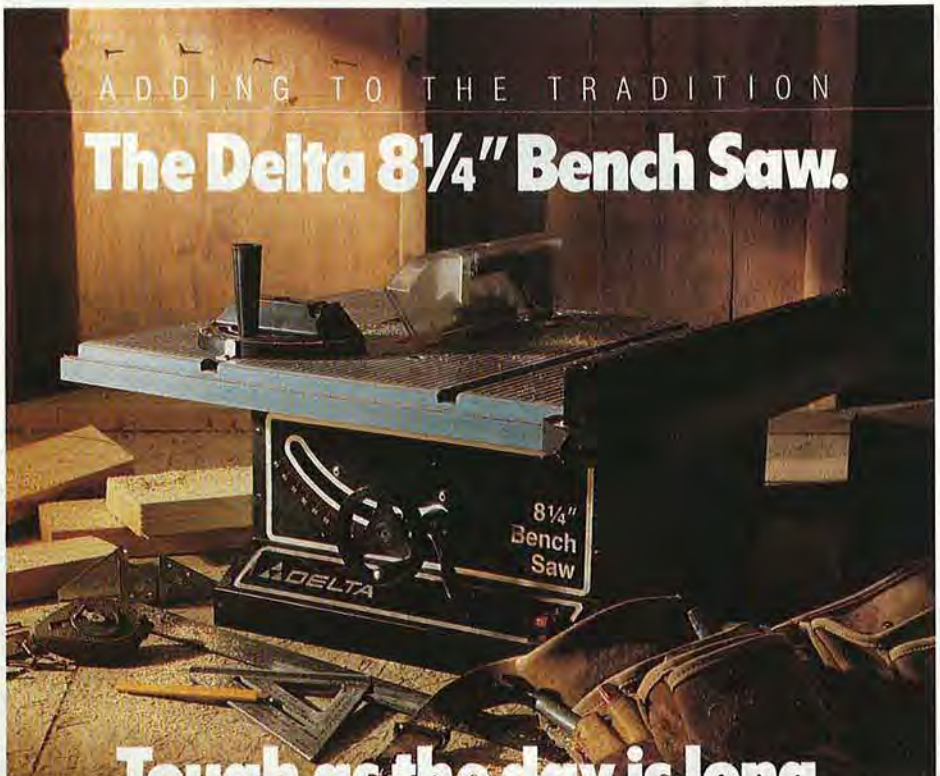


CARBIDE TIPPED — TWO FLUTE
1/4" SHANK
supplied with Ball Bearing

To order by MasterCharge or Visa Toll Free
7 Day – 24 Hour Order Service. Call
1-800-533-9298 or send check to:
MLCS, Ltd., P.O. Box 4053D-C, Rydal, PA 19046

ADDING TO THE TRADITION

The Delta 8¼" Bench Saw.



Tough as the day is long.

We set out to build a saw that would be as comfortable in the back of a pickup as in a warm, dry shop.

Tough enough to hold it's own on the nastiest of job sites. And take all the abuse a work crew can dish out. Yet precise enough to spend an evening at home on the bench making all sorts of perfect cuts. Or go from the basement, to the deck, to the attic on a Saturday afternoon.

The new 8¼" Bench Saw from Delta. Its 20" × 26" table is made of space-age SMC. A new, reinforced polyester resin compound that won't rust, spring or warp.

Its powerful 13 AMP motor turns a carbide-tipped blade that'll cut 2¼" stock at 90°, or 1¾" at 45°. You can rip 12" right of the blade, or add an accessory extension wing, and rip to the center of a 4-foot panel. All day long.

Call toll-free for the name of your Delta dealer: Delta International Machinery Corp., 800/438-2486. (In PA, 800/438-2487).

Building On Tradition

DELTA

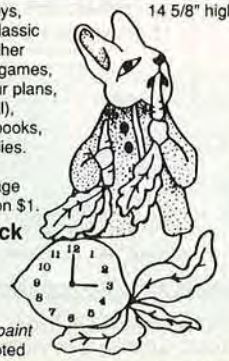
A Pentair Company

MAKE CLOCKS

TOYS & WHIRLIGIGS

Make wooden clocks, toys, whirligigs, dollhouses, classic cars, music boxes, weather instruments, desk sets, games, crafts & furniture with our plans, parts (hardwood & metal), kits (for all skill levels), books, tools, finishes and supplies. Bulk prices available. (614)484-4363. Sixty-page color catalog subscription $1.

14 5/8" high



Peter Rabbit Clock

•**Uncut Kit:** $14.95
Just cut, sand, assemble & paint

•**Precut Kit:** $19.95
Just sand, assemble & paint

•Visa/MasterCard accepted

CHERRY TREE TOYS, Bx 369-9, Belmont, OH 43718

Furniture Restoration

Big Money in Small Business

Stripping ★ Repairing ★ Refinishing
Mirror Resilvering ★ Veneering

Earn $200-$1000 a day!

At home or in shop ★ Spare time, full time ★ Men or women ★ Complete training, no experience necessary ★ Simple, fast, safe, fun.

FREE CATALOG

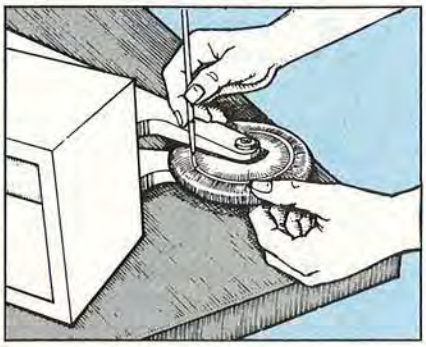
Send $2.00 for postage & handling to
MINUTEMAN, INC., Dept. 17,
115 N. Monroe St., Waterloo, WI 53594

TIPS FROM YOUR SHOP (AND OURS)

Continued from page 14

YOU CAN PINSTRIPE WITH A PROFESSIONAL FLARE

Using short strokes, it's practically impossible to paint a neat pinstripe of consistent width on a wheel or other circular object.



TIP: First, attach the object to its actual axle or a temporary one. Then, with your hand resting in a fixed position, slowly rotate the wheel and apply the stripe by holding the brush at a right angle to the wheel. Be sure to use a thin, high-quality brush and practice both thinning the paint to a suitable viscosity and handling the brush. The paint must be thin enough to flow, but not run.

—Jim Wilhoit, Aiken, S.C.

MIXING EPOXY WAS NEVER SO EASY

Many people try to match the size of two mounds of resin and hardener when mixing epoxy. This method can lead to weak, sticky bonds. The key to success: achieving correct proportions of the two materials, usually 1:1.

TIP: Run one bead of hardener next to a bead of resin of approximately the same width and length

as shown *above,* and then mix together. This technique will give a ratio very close to 1:1.

—From the **WOOD®** *magazine shop*

Continued on page 18

Your workshop can PAY OFF ...BIG!

SAVE ... convert low cost rough lumber for use in your home projects

OR

EARN EXTRA INCOME by supplying custom Planed Lumber, trim, and molding to lumberyards ... contractors ... cabinetmakers ... home hobbyists and others ...

FOUR BIG ADVANTAGES ...

PLANE

MOLD

SAW

SAND

You can plane, mold, saw & sand All with Automatic Power Feed!

From the Day It Arrives ... the Planer will make and save you money. With shortages and inflation driving lumber prices sky-high, this versatile power feed tool quickly pays for itself by easily converting low cost rough lumber into high value finished stock. In just one pass turn out your own quarter round, door and window stop, casing, tongue-and-groove ... all popular patterns. Other operators are making cases for grandfather clocks, furniture, picture frames, bee hives, bed slats, surveying stakes ... all kinds of millwork.

Built For Pros ... Priced For Home Craftsmen ... it is engineered and built to industrial standards, but factory-direct selling keeps the price low. Handles tough oak and walnut as easily as pine, and so simple to operate even beginners with no experience can use it.

Start Your Own Business ... with just this one low cost power feed machine in a corner of your garage or basement, you're set up to supply lumberyards, cabinetmakers, carpenters, remodelers, contractors and hobbyists in your area with custom-planed lumber, trim, molding ... All of their millwork requirements. You can supply picture frame moldings to art shops, hardware and department stores, or sell direct to framing shops. All standard patterns are available from stock, or we'll custom grind a knife to your own special design or sample.

FREE BOOKLET!

Get FREE BOOK with facts and full details

... RUSH COUPON TODAY!

Just Mail Coupon ...
30-DAY FREE TRIAL OFFER!!!
ACT NOW!
Coupon Brings Full Details!

SAVE!!! FACTORY PRICES DIRECT TO YOU!

FOLEY BELSAW

FOLEY-BELSAW CO.
6301 EQUITABLE RD., DEPT. 91463
KANSAS CITY, MO. 64120
Established in 1926

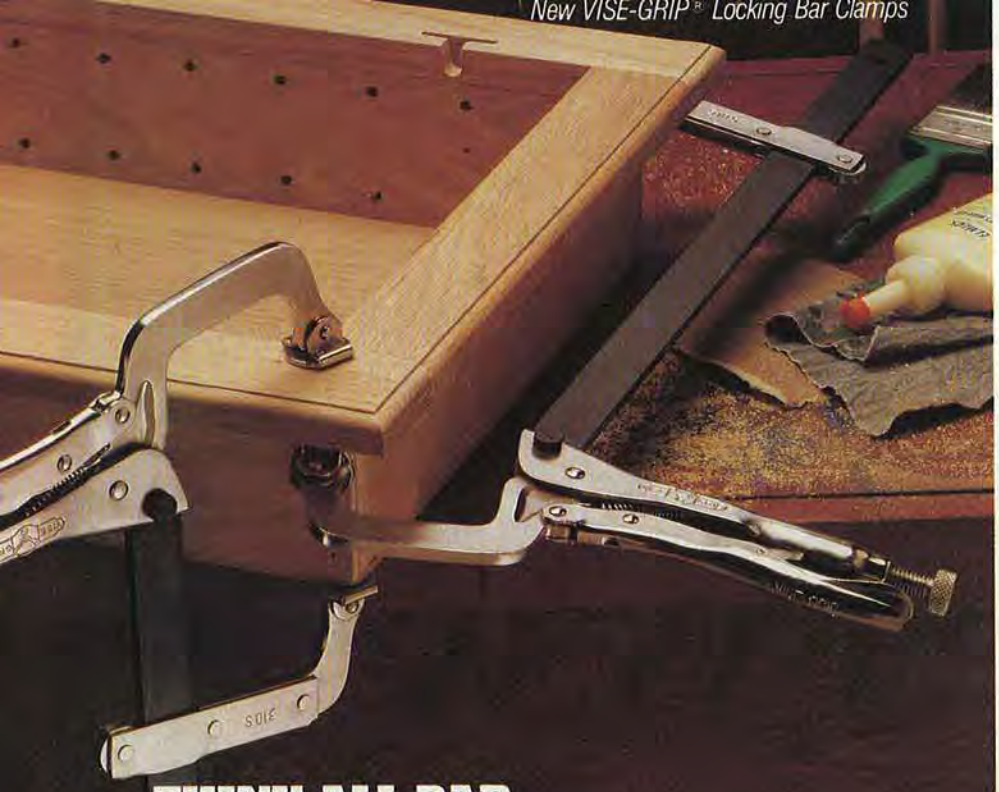
☐ YES, please send me the FREE Booklet that gives me complete facts about your Planer-Molder-Sander-Saw and full details on how I can qualify for a 30-Day FREE Trial right in my own shop. I understand there is No Obligation and that No Salesman will call.

Name_____

Address_____

City_____ State_____ Zip_____

New VISE-GRIP® Locking Bar Clamps



THINK ALL BAR CLAMPS ARE THE SAME? THINK AGAIN.

Not all bar clamps are created equal.

There's only one VISE-GRIP® Locking Bar Clamp. Conventional bar clamps just don't compare. For ease of use, speed, versatility, and most important, long lasting quality.

VISE-GRIP Locking Bar Clamps adjust in seconds. Lock tight and release in a snap. Unique self-leveling swivel pads protect work. VISE-GRIP Locking Bar Clamps bring even big jobs down to size.

Choose from two sizes – 10" bar or the even larger 18" bar for extra-long reach and versatility. Available with regular tips or swivel pads.

Extend your clamping capabilities with VISE-GRIP Locking Bar Clamps. Because not all bar clamps are created equal.

VISE-GRIP THE ONLY NAME YOU NEED TO KNOW IN LOCKING HAND TOOLS.

© 1988 American Tool Companies, Inc. Lincoln, Nebraska 68508

STEVE WALL LUMBER CO.

Quality Hardwoods and Woodworking Machinery For The Craftsmen and Educational Institutions

CEDAR: (Aromatic Red)	4/4 1C & Btr.	$ 1.10
CHERRY:	4/4 FAS	2.25
OAK: (Red or White)	4/4 FAS	1.80
MAPLE: (Hard)	4/4 FAS	1.45
MAHOGANY (Genuine)	4/4 Select	2.50
WALNUT	4/4 FAS	2.35

Above Prices are for Kiln Dried Rough Lumber Sold by Bd. Ft. FOB Mayodan, NC - Quantity discounts available. For other sizes and species send $1.00 for Lumber & Machinery Catalog.

Call for best prices on RBI Scroll Saws & Planes.

Special Hawk
H-14 $499
H-16 $599
H-20 $699

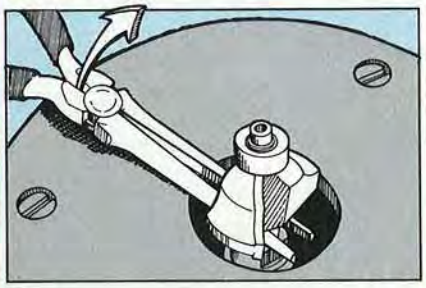
STEVE H. WALL LUMBER CO.
Route 1
BOX 287
MAYODAN
N.C. 27027
919-427-0637
1-800-633-4062

TIPS FROM YOUR SHOP (AND OURS)

Continued from page 16

HELP FOR REMOVING STUBBORN ROUTER BITS

Sometimes burred bit shafts or a pinched collet make it difficult to remove a bit from your router. Attempting to force such a bit loose can result in damaging it or the router itself.

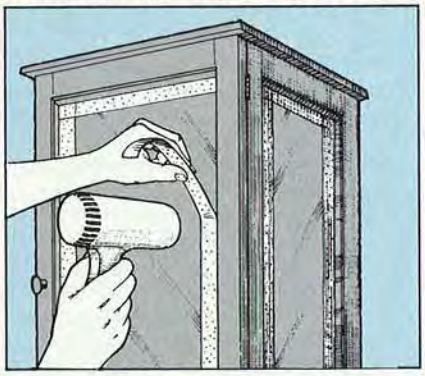


TIP: Leave about ⅛" of clearance on the shaft in the collet when you install the bit. This gives you room to insert the tips of a needle-nose pliers which will act as a lever when you back off the locking nut. Be careful not to damage the cutting edges, especially with carbide-tipped bits.

—Buddy Munro, Little Neck, N.Y.

PUT SOME HEAT ON TAPE SO IT RELEASES CLEANLY

Applying masking tape to glass before finishing or painting frames makes cleaning up quick and easy. The hitch: removing the tape. Once it's been in place for a few days, the adhesive clings to the pane so tightly that the tape tears when you try to pull it up.



TIP: Use a hand-held hair dryer to warm the tape slightly beforehand and it will peel off cleanly without tearing.

—Ray Ferreri, Stormville, N.Y.

Continued on page 20

ORDER TOLL FREE 1-800-288-7297 Extention 28

From Penn State Industries...
Professional Quality Woodworking Machines At Affordable Prices

Super 15" Scroll Saw

Comparable value over $500.
Shipped complete & ready to run.
Includes $37 Free accessory package !

On Sale... **$129.95**

This versatile machine makes cutting intricate wood patterns easy - **Its great for making toys, jewelry, puzzles, fretwork**, etc. The blade is driven on both up and down stroke with a smooth cutting parallel rocker arm system that avoids blade breakage and **creates a smooth finish that eliminates sanding.** The Super 15" Scroll Saw is easy to set-up and use and is made with a **cast construction that insures durability.**

SPECIFICATIONS:

- **Construction** ..... Cast Iron
- **Throat depth** ..... 15"
- **Max depth of cut** ..... 2"
- **Machine weight** ..... 43 lbs
- **Motor** - Heavy duty totally enclosed fan cooled 110-120V, UL listed, ball bearing induction motor
- **Blades** - uses 5" standard & pinend
- **Stroke length** ..... 3/4"
- **Table tilt** .....0 - 45° to left

OPTIONS:

- **Dust Blower** • **37" Saw Stand**

SAW STAND On Sale! reg. $39.00 Now Only $26.00

Free with Purchase of Saw

12 Blade Assortment	**$ 3.50 value**
Extra Blade Holder set	**8.50 value**
Plastic Lettering guide set & patterns.....	**25.00 value**

FREE ... $37.00 VALUE

Saw & Accessories Price List

	PRICE	(UPS)
Super 15" Scroll Saw	**$129.95**	**(10.00)**
Dust Blower	**15.00**	**(*)**
Saw Stand - 37" high	26.00	(4.00)
4 dz blades (2dz pin, 2dz #9)	14.00	(*)
2 dz Spiral blades (size #2)..	10.00	(*)

(*) No freight chg if ordered with Saw, $3.00 for any combination of these accessories ordered separately

Super 125 Planer

Portable with "Power Feed" • Shipped assembled • Retail value over $600.00

On Sale ... **$349.95**

This machine will pay for itself time and again by planing your own lumber. At 65 lbs, you can carry this Planer to a job site or mount it permanently in your workshop like any stationary machine. **You'll spend hundreds of dollars less** for this 12-1/2" power feed Planer than for a traditional stationary model of a similar capacity - with comparable results.

SPECIFICATIONS:

- **Knives**.... 2ea, 12-1/2" wide, HSS
- **Motor** - 16 Amp, 115V, 8000 RPM
- **Auto Feed rate** ..... 26.2 FPM
- **Cutting speed** ..... 16000 Cuts/min
- **Thickness of stock** ..... 3/16" to 6"
- **Size** ..... 15-1/2"H X 22"W X 21" Bed
- **Max Depth of cut** ..... 3/16"
- **Machine Weight** ..... 65 Lbs

Planer & Accessories Price List

	PRICE	(UPS)
Super 125 Planer.....	**$349.95**	**(15.00)**
Extra Set of 2 Knives	**25.00**	**(*)**
Dust Chute for vacuum	24.00	(3.00)
Planer Stand ..... Heavy Duty, 27-1/2"high	44.00	(6.00)
Roller Stand - variable ht..... Hvy duty, ball bearing, ht 25-45"	35.00	(4.00)

(*) No freight charge if ordered with Planer, otherwise add $3 UPS

DC-1 Dust Collector

Keep your shop clean and safe from sawdust with our large capacity, commercial style system. This collector has up **to 10 times more air flow** than a Shop Vac and runs **much quieter.**

INCLUDED WITH PURCHASE...

- **$15 FREE hose & adaptors.**
- Plans for inexpensive 2-stage setup.
- Price list for replacement Hose.
- Sources for cheap piping & fittings

SPECIFICATIONS:

- **1hp, 110/220V (pre wired 110V)**
- **610 CFM air flow • 6990 FPM air speed**
- **2 Bags 15"dia X 22" • 20 gallon bag**
- **4" inlet • Casters on base**
- **Weight 75 lbs • Size - 26"x15"x57"H**

On Sale ... **$189.95**

Add $17.00 UPS Freight

Penn State's Commitment

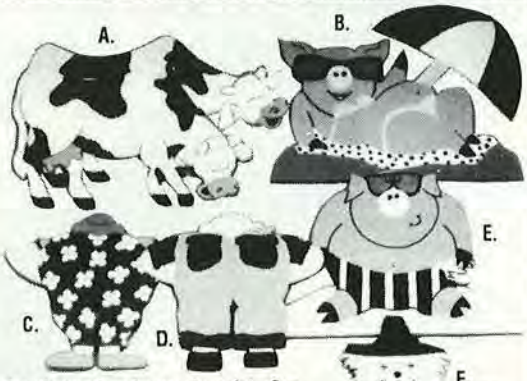
Our company has been in business for over 50 years. We unconditionally guarantee your satisfaction with our fine machines. ***All of our machines carry a Thirty Day Money Back Guarantee and One Year Warranty for Parts and Labor .***

PENN STATE INDUSTRIES–W
2850 Comly Road • Phila, Pa 19154
Order Toll Free 1-800-288-7297 (Ext 28)
For information 1-215-676-7609 (Ext 15)

Visa / Master Card accepted
Pennsylvania residents add 6% Sales Tax
Add UPS Shipping Charges as noted
Continental U.S. only (Call for shipping charges to other locations)

Plans for Yard Ornaments

CATALOG $1.00
OR FREE W/ORDER



Designed to be easy-to-cut from 1/2" exterior plywood and easy- to-paint. Our FULL SIZE blueprints are available in a small or a large size. Large ornaments mount with 2" x 2" stakes. Small ornaments use kit below.

A. Laughing Twin Cows Plan
You get one cow body with two different head positions - one laughing and one chewing.
#W392 Cow Plan (20") $3.50/EA
#W393 Cow Plan (40") $7.99/EA
B. #W394 Priscilla Pigmalia Plan (34" long) $3.50/EA
#W395 Priscilla Pigmalia Plan (62" long) $7.99/EA
C. #W396 Bloomin' Beulah Plan (20") $3.50/EA
#W397 Bloomin' Beulah Plan (40") $7.99/EA
D. #W398 Mad Max Plan (20") $3.50/EA
#W399 Mad Max Plan (40") $7.99/EA
E. #W400 Bakin' Billy Plan (20") $3.50/EA
#W401 Bakin' Billy Plan (40") $7.99/EA
F. #W402 Scarecrow Plan (26") $3.50/EA
#W403 Scarecrow Plan (52") $7.99/EA

FULL SIZE PLANS

ADD SHIPPING & HANDLING:
Mail check or money order and include $4.95 shipping & handling. MN Res. add 6% tax. Alaska and Hawaii send $9.50 p&h. Canada send $15.50 (U.S.) p&h. We accept VISA or MC on orders over $25.00.

MINIMUM ORDER OF $25.00
Phone toll free
1-800-441-9870

Mounting Rod Kit (for small yard ornaments)
#8675 Mounting Rod Kit
1-9 ..... $3.79/KIT
10-19 ..... $3.39/KIT
20 or more $3.19/KIT

MEISEL HARDWARE SPECIALTIES
P.O. BOX 70 W-8 MOUND, MN 55364

A Real Classic.

For a complete color brochure package, phone Toll Free
1-800-245-1310
NY State and outside U.S. phone collect (716)684-1167 or mail coupon

The 1937 Jaguar SS-100 reproduction. A full size reproduction of this timeless classic. To assemble and drive yourself — or have one custom assembled for you.

XK 120 Reproduction

ANTIQUE & CLASSIC AUTOMOTIVE, INC.
100 Sonwil Dr., Dept. W-789 Buffalo, NY 14225
☐ Please rush me the SS-100 color brochure ($1.00)
☐ Please rush me the XK-120 color brochure ($1.00)

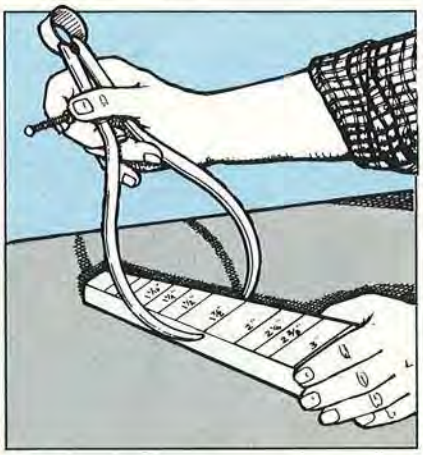
Name _____
Address _____
City _____ State _____ Zip _____
Phone ( )

TIPS FROM YOUR SHOP (AND OURS)

Continued from page 18

SET CALIPERS QUICKLY WITH THIS GAUGE

Constantly resetting calipers can prove to be a monotonous chore that requires a lot of time and poses the possibility of making incorrect settings.

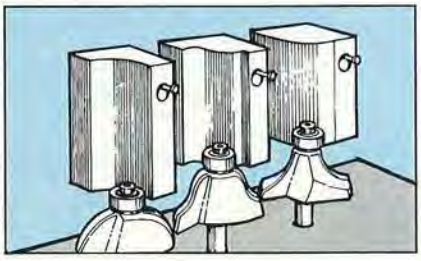


TIP: Cut a piece of stock that tapers from ½" to 3½" wide for a gauge to set your calipers. Draw lines at widths you commonly use and label them as shown *above*. This provides a quick gauge for flawlessly setting calipers.

—David L. Wisely, Waters, Mich.

AT-A-GLANCE PROFILE OF ROUTER BITS

Because the profile of a router bit appears to be the opposite shape of the cut it makes, it often takes a second glance to select the correct cutter for the desired shape.

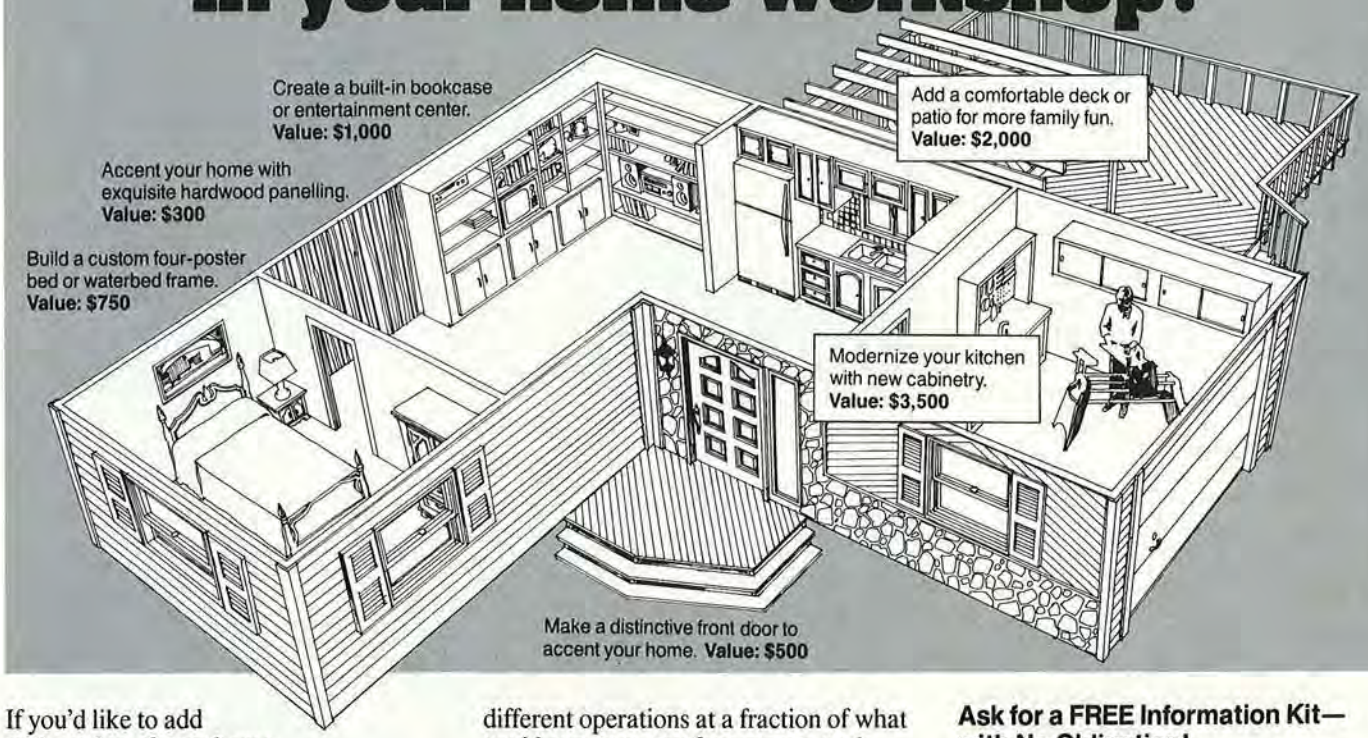


TIP: For a reference of the bit profile, shape an 8" length of scrap material with each bit. Trim the profile to a shorter length and hang the profile near the respective bit as shown *above*. Hold the profile to the end of your workpiece before you make any cuts.

—From the* WOOD® *magazine shop.

Continued on page 22

Add big value to your home with a small investment in your home workshop!


Create a built-in bookcase or entertainment center. **Value: $1,000**
Accent your home with exquisite hardwood panelling. **Value: $300**
Build a custom four-poster bed or waterbed frame. **Value: $750**
Add a comfortable deck or patio for more family fun. **Value: $2,000**
Modernize your kitchen with new cabinetry. **Value: $3,500**
Make a distinctive front door to accent your home. **Value: $500**

If you'd like to add to the value of your home by doing repairs or remodeling, you really only have three choices:

1. Hire an expensive professional to do the job for you.
2. Buy a workshop full of individual power tools that could cost you thousands.
3. Get your hands on a Shopsmith MARK V—the *affordable* all-in-one home workshop system that replaces the five most needed woodworking tools with a single, compact unit!

The Shopsmith® MARK V does it all!

Whether you're building a set of kitchen cabinets, creating your own entertainment center, or just making a few repairs around the house, the MARK V is all you need to do it right. And by doing it yourself, you'll easily save enough to pay for your new MARK V... and have a lot of fun in the process.

The MARK V can save you a bundle on equipment!

With the Shopsmith MARK V you'll have a table saw, drill press, horizontal boring machine, lathe and disc sander in a single unit that can be stored in the same amount of space as a bicycle. And with our special add-on accessories you'll be able to perform over 150 different operations at a fraction of what you'd expect to pay for separate tools. Now, *that's* value!

All the support you could ask for.

As a MARK V owner, you receive complete operating instructions—plus you can learn more about woodworking through our classes, seminars, educational video tapes, catalogs and our special owners' magazine, "Hands On".

You can also call us Toll-Free for the answers to all your woodworking questions. And you'll have the confidence of dealing directly with Shopsmith, either by mail, Toll-Free phone or at one of our growing network of Shopsmith Stores.

Ask for a FREE Information Kit—with No Obligation!

To find out more about woodworking with the Shopsmith MARK V, call Toll-Free or mail the coupon below. We'll rush you a FREE Information Kit in your choice of Full Color Brochure or VHS Videocassette and Color Brochure.

There's no obligation, so act NOW.

For your FREE Information Kit Call

1-800-526-9400

or mail the coupon below to:

Shopsmith Inc.
The Home Workshop Company
3931 Image Drive
Dayton, Ohio 45414-2591

© 1988, Shopsmith, Inc.
Shopsmith® is a registered trademark of Shopsmith, Inc.

Yes! I'd like to know more about how I can use the Shopsmith MARK V to add big value to my home. Please send me:

☐ FREE Color Brochure on the Shopsmith MARK V, or
☐ FREE VHS Videocassette and Color Brochure. (3779)

Name _____

Address _____

City _____ State _____ Zip _____

☐ I currently own Shopsmith Power Equipment.

Send to: Shopsmith, Inc., 3931 Image Drive, Dayton, OH 45414-2591

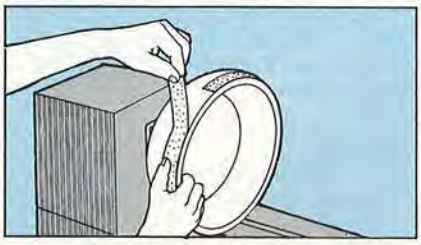
Dept. 3778

TIPS FROM YOUR SHOP (AND OURS)

Continued from page 20

TAPE GIVES STIFF UPPER LIP TO TURNED BOWLS

It's a challenge to turn a wooden bowl with thin walls and remove interior stock without cracking or breaking the bowl's outside edge.

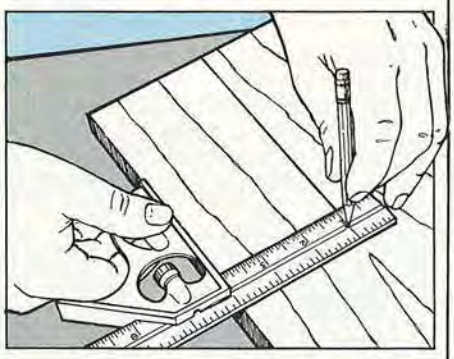


TIP: After turning the lip of the bowl, reinforce the lip with a strip of masking tape before turning the rest of the interior. Be sure the tape doesn't unravel by wrapping it in the opposite direction that your lathe rotates.

—David Arnall, Berkeley Vale, New South Wales, Australia

GET DOUBLE DUTY FROM A COMBINATION SQUARE

Some tasks require using a combination square for measuring and for drawing perpendicular lines, and a marking gauge for drawing lines parallel to an edge on a work surface. Wouldn't it be nice if one tool could do both jobs?

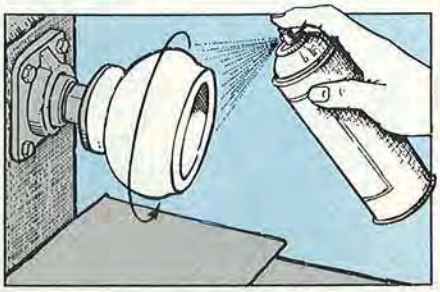


TIP: Drill a 1/16" hole through the center of the guide slot in the blade at the 1" mark as shown *above*. You can insert a pencil tip or a scribe through the hole for marking. Remember to subtract 1" from the distance shown on the scale where it intersects the crosspiece.

—R. L. Watkins, Naches, Wash.

LIGHT COAT OF FINISH LETS YOU CLEARLY SEE DEFECTS

In the final stages of sanding a turning project, minor scratches in the surface can be practically impossible to detect. It's really disappointing to start applying the finishing material only to discover imperfections you missed earlier.



TIP: With an aerosol finish, spray on a light coat while the piece rotates on your lathe. This will quickly reveal hard-to-see faults such as fine scratches and chip-outs along glued joints when working them out is still fairly simple. Also, you may want to use a piece of cardboard to catch the overspray and protect your equipment.

—From the WOOD® *magazine shop*

MORE SUPER TIPS FROM OUR WOODWORKING PROS

You'll find other useful shop tips scattered throughout this issue of *WOOD* magazine:

- Make easy work of drilling multiples holes in exact locations using our tip on page 42.
- Use your router and a simple jig for forming tenons on the ends of dowels as described on page 44.
- Even if you don't own a lathe you can produce simple turnings on your drill press. Find out how on page 73.
- If you've had less-than-satisfactory results with your belt sander, try our belt-sander checkup on page 80.
- Use the four-step process on page 35 to make joints flush.

BOSCH

Woodworking

Shape Solid Surfacing Beautifully.

5 bits in 16 sizes handle solid surface undermount bowl and decorative edge routing with micro-grain carbide-tipped efficiency. Line includes 15° bevel, rounding over, ogee, no drip and edge inlay bits.

Trimming Laminates or Veneers?

Bosch 1608 Laminate Trimming System includes 5.6 amp motor and complete set of accessories for virtually all shop, installation tasks. Includes standard, tilting and offset bases.

Sander Features Exclusive Belt Tracking/Tensioning.

Model 1273 and companion models have unique belt centering system. Rated super duty for high production, the unit also has pinch point guards for safety and lever action for easier belt changes.

The Speed Varies So The Results Won't.

The new 3.25 H.P. Bosch electronic variable speed plunge router lets you make perfect plunge cuts time after time, no matter what the material or bit size. That's because it puts *you* in total control of speed, cutting depth, and the router itself, due to an excellent ergonomic design.

The Advantages Of Variable Speed.

Select any speed, from 12,000 to 18,000 RPM, to match your material and bit size—and get far better cutting results.

1611EVS electronics give you two more big advantages, too. "Soft start" when you press the trigger—no jarring "torque twist" means better control. And by monitoring RPM and feeding power as needed, it keeps you from bogging down, even in the toughest cuts.

Master Of Ergonomics.

From the first moment you get your hands on the variable speed model 1611EVS or the single speed model 1611, you'll know what separates it from other plunge routers. The handle grips feel like they were molded especially to fit your hands. The trigger switch, built into the right handle, and the plunge lock mechanism by your left thumb, let you reach these controls without taking your hands off the router.

Then press the trigger and take the plunge. Feel the housing glide down, and the ample power at your command as the bit slices effortlessly into your workpiece. Release the spring-loaded plunge lever and the housing locks firmly into position. And you can use the multiple-step depth-stop to make progressively deeper cuts with precision.

Both models accept the full array of ½", ⅜" or ¼" shank bits. And with their built-in, spring-loaded shaft lock, changing bits is fast and simple.

The Bosch models 1611EVS and 1611 are available in cooler running, higher horsepower 220V models, too. Ask about them and the complete line of fine Bosch power tools for woodworkers, at your nearest Bosch power tool distributor. He's listed in the Yellow Pages under "Tools—Electric."

BOSCH

"Quality You Can Hold On To."™

©1989 Robert Bosch Power Tool Corporation

BUILD IT BETTER Yourself!

FREE PLANS!

Announcing a new book series especially for home woodworkers...

Leave it to Rodale Press, publishers of *American Woodworker*™ magazine, to publish an exciting new book series for woodworkers—books with lots of great projects, clear writing and comprehensive instructions—that are *very reasonably priced.*

Build-It-Better-Yourself Woodworking Projects will give you the skills, the confidence and the detailed plans you need to build the projects you've always dreamed of making.

Start with your introductory volume— OUTDOOR FURNITURE

OUTDOOR FURNITURE—like all the books in this series—brings you projects that will add both beauty and practicality to your home. Projects range from simple, Saturday-morning affairs to challenging pieces that will give you hours of satisfaction.

What's more, you'll get a vast source of ideas, tips, techniques and projects to fill you with excitement and provide hours of joy and relaxation in your shop. You'll "learn as you go" with each volume of *Build-It-Better-Yourself Woodworking Projects.*

Lifetime money-back guarantee!

Start today by sending for your Introductory Volume, OUTDOOR FURNITURE. You must be satisfied with Rodale's *Build-It-Better-Yourself Woodworking Projects* or you may return any book at any time for a full refund of its purchase price.

A $7.50 VALUE

—free with your introductory volume.

Get the plans to build this Harvest Table. Measured and drawn by master-woodworker Carlyle Lynch, these plans make it easy to build this authentic reproduction of this antique drop-leaf table.

Step-by-step instructions

No more guesswork! Every project is thoroughly explained, one step at a time.

Expert Answers When a special technique is called for, we'll show you how to do it right—*the first time.*

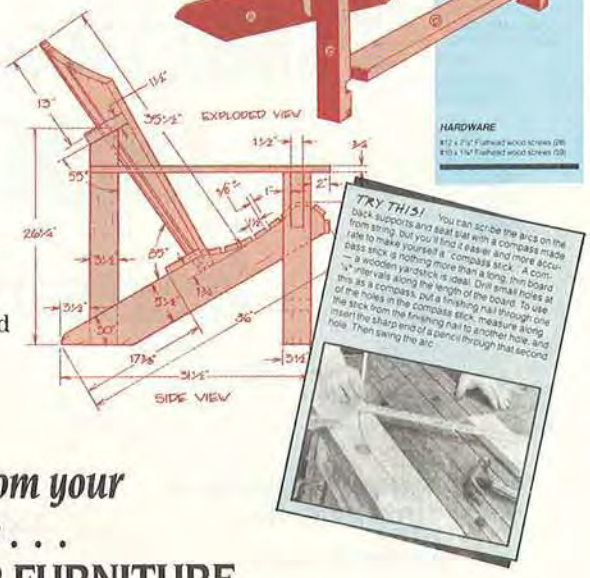
Close-ups show details Even intricate handwork is made simple with close-up photos and detailed drawings.

Exploded illustrations You'll see exactly what to do with the help of carefully detailed drawings.

Photo of finished project You'll see exactly what your final project will look like.

No-nonsense writing We've taken out the jargon and made things easy to read and understand.

Top-quality projects Each project is designed for good looks and sturdy performance.



Projects from your first volume . . . OUTDOOR FURNITURE

A—Adirondack chairs are timeless and attractive. See page 116 for complete details on building one for *your* yard.

B—For courting or contemplation, this contoured porch swing will turn any house into a country home. See page 24.

C—This garden bench, with its gently curving arms, gives you a comfortable place from which to enjoy the beauty of your yard. Step-by-step details start on page 54.

FREE 21-DAY EXAMINATION

YES! Please send me OUTDOOR FURNITURE, my first volume of *Build-It-Better-Yourself Woodworking Projects,* to examine without cost or obligation for 21 days. If I choose to keep it, I'll pay just $14.95 plus postage and handling, and I'll be entitled to receive a new volume in the series, also for 21 days, free. I am not obligated to buy any book and I may cancel at any time simply by notifying you.

If I decide *not* to keep OUTDOOR FURNITURE, I'll return it within 21 days and no other books in the series will be sent. No matter what, the genuine Harvest Table plans by Carlyle Lynch are mine to keep.

Y26

NAME _____

ADDRESS _____ APT.# _____

CITY _____

STATE _____ ZIP _____

SEND NO MONEY NOW.

Clip and mail to: Rodale Books P.O. Box 10848 Des Moines, IA 50336-0848

Thanks for making WOOD® work.

THE CUTTING EDGE PARTNERSHIP

These companies joined the WOOD® roster of advertisers in our very first issue. They have advertised in every issue WOOD has published during our first five years. We thank them for their early—and unwavering—confidence.

Advanced Machinery Imports, Inc.
Armor Products
Foley-Belsaw
Freud
Furniture Design
HTC Products
Horton Brasses
Lignomat USA, Inc.
MLCS, Ltd.
Mastercraft Plans West
Miesel Hardware
National Carvers Museum
Nova Tool Company
Total Shop
Toys & Joys
Warren Tool Company
Woodcraft Supply
Woodmaster Tools
Woodworks

THE RED FLANNEL SHIRT CLUB

We salute these companies who have been most generous in their support of WOOD. Each has advertised in our pages at least once in each of our first five years.

Adjustable Clamp Company • Black & Decker • Brandmark • Buckeye Saw Company
Cascade Precision • Cherry Tree Toys • Albert Constantine & Sons
Craftsman Wood Service • Criss-Cross Creations • DML • Delta International Machinery • Design Group
Dollar Trading Corporation • Educational Lumber Company • Emco • Emerson-Skil
Emperor Clock Company • Fisher Hill Products, Inc • Frog Tool Company • Garrett Wade Company
Gilliom Manufacturing • Grizzly Imports • Grolier-Popular Science Book Club
Hammermark Associates • Hiller Hardware • How To Book Club • J.Philip Humfrey
Industrial Abrasives • WS Jenks • Kuempel Chimes • Marlin Industries
Master Woodcraft & Hobby • RA Ness Woodworkers Emporium • Nyle Corporation
RBIndustries • Seven Corners Ace Hardware • Seyco Sales • Shopsmith
Singley Specialty • Tool City • Van Dyke's Supply • Watco-Dennis • Williams & Hussey
Wood Mizer • Woodworkers Supply of New Mexico • Woodworker's Store
Woodworking Association of North America

Better Homes and Gardens®
WOOD®

TRANSPOWER We are NOT NO. 1 in catalogue and advertising.
We are NO. 1 in QUALITY, PRICE & WARRANTY – You check! CALL 1-800-654-7702

SHAPER/ROUTER MACHINE
Extra Large Table
Only $664

1", ¾" & ½" spindles, ¼" & ½" router chucks, 3HP motor, 25"x22" mirror table, dovetailed miter gauge, 8000/11000 reversible 2 speeds, 3" spindle travel, precision steel fence, 6" insert opening, side & top spring hold-down, dead collar for irregular surface, 34" height, 425 lbs.
Optional roller extension.

12" AUTO PLANER
Sale $328

2HP, 115V, 12"x6" capacity, ⅛" max cut, 0.2"-6" range, 26.2 FPM rate, 8000 RPM, 16000 cuts, 2 feeders & extensions, all ball bearings, 65 lbs.

15" AUTO PLANER
2 speeds $664

15"x6" capacity, 2 feeders, 3HP, 18 AM, motor, 3 blades, 15/28 FMP rates, ¼" max. cut, 0.2"-6" range, 5100 RPM/15300 cuts, 20"x16" table, 2 extensions, 520 lbs.

20" AUTO PLANER
Sale $1175

5HP, 20 AMP motor, 20"x8" capacity, 4 blades, 15/28 FMP rates, ¼" max. cut, 0.25"-8" range, 20000 cuts/min, 26"x20" table, 2 feeders & extensions, 980 lbs.

10" TABLE SAW
Sale $840
w/Biesemeyer fence $990

3HP, top precision fence, double lock, micro adj., 3" max cut, 36"x27" mirror table, T-slot, cast iron construction, 4200 RPM, ⅝" arbor, 33.5" rip capacity, 500 lbs.

DUST COLLECTOR
Sale $284

2HP, 3 intake holes (4"), 1250 CFM, 21"x37" base w/casters, 19"x36" bags, 78" height, 6.04 static pressure at 6", 210 lbs.

8" JOINTER
JT 860A $625 ECON.
JT 860 $685 H.D.

2HP, 9"x68" extra long bed, 3 blades, 2 v-belt drive, ½"x8" cut, 36" fence, 4500 RPM, precision lead screw, built-in chip chute, 500 lbs.

6"x12" SANDER
Sale $362

1½HP, 6"x48" vertical/horizontal belt, 12" sanding disc, tilting tables 7"x17", 3600 RPM, quick release belt, 180 lbs.

90° EDGE SANDER
Sale $394

1½HP, 6"x90" belt tilts 90°, 28"x10" cast iron table, T-slot miter gauge, quick belt release design, heavy duty stand, adjustable fence, 260 lbs.

TCM Industries, Inc. 322 Paseo Sonrisa, Walnut, CA 91789 Inquiries (714) 594-0780

FINALLY A SCROLL SAW THAT DOESN'T CUT CORNERS.

Sawdust Blower keeps cutting surface clear.
Built-in Blade Storage Case.
Accepts Pin and Plain End Blades so you can select the best blade for the application. 3/4" blade stroke.
12" Round Cast Aluminum Table makes intricate cuts easier.
Cast Iron Frame for strength and stability.
Two-Speed Direct Drive Motor—1,790 SPM at HIGH speed, 890 SPM at LOW speed.
DREMEL

The new Dremel two-speed Scroll Saw gives you all the features of the most expensive saws, except one. The price.

How'd we do it? Using the same Dremel engineering that's been bringing you intelligently-crafted, affordable power tools for over 80 years.

So if you're looking for a quality scroll saw that'll make your most intricate work a breeze, ask about the new 16" Scroll Saw from Dremel.

And cut those expensive saws down to size.

DREMEL®

© 1989 Dremel

Cascade Precision Tool Co.

Box 848, Mercer Island, WA 98040
Call Toll-Free: 1-800-235-0272

SY BRAND QUALITY! – A CUT ABOVE!! –

Thousands of our satisfied customers tell us that our SY brand carbide-tipped router bits and shaper cutters ***last longer*** and ***cut smoother*** and are the best value on the market. And now ***another bonus*** – Cascade's ***SUPER SUMMER SALE!!*** Through August 15, 1989, take a ***WHOPPING 15% DISCOUNT*** on all in-stock Router Bit and Shaper Cutter orders of $100 or more! ($15 discount on all 6-pc. Shaper Cutter Cabinet Sets.) Don't miss this opportunity to stock up on these great cutters and bits. If you haven't already experienced the SY brand feeling, write or call for our new FREE 1989 catalog.

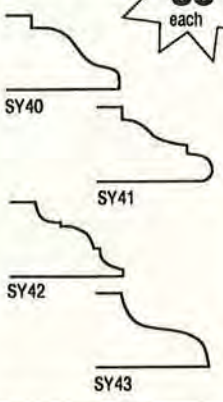
NOW

A Choice of Edge Beading Bits

$16 each

And... Tabletop Edge Bits

$30 each



Bits for Leigh Jigs Now Available

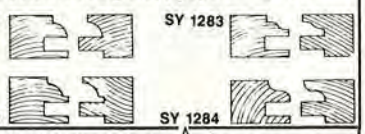
CARBIDE TIPPED SHAPER CUTTER PANEL RAISER –
3 WING, 5 PROFILES, 3MM THICK CARBIDE
$69.95 • 4-5/8" O.D. with 3/4" BORE (1/2" BUSHING)
• 5-1/2" O.D. with 1-1/4" BORE (1" BUSHING)

SY BRAND — 5° FACE CUT | 15° FACE CUT | CONCAVE | 12° FACE & QTR RD | CONVEX

6 PC CARBIDE TIPPED CABINET SETS
• 3 mm CARBIDE
• 3/4" BORE W/1/2" BUSHING
ONLY $179.95

13 Great Cabinet Sets including these popular Profiles:

(1-1/4" Bore with 1"Bushing— ONLY $249.95)



1/2" SHANK CARBIDE TIPPED CABINET DOOR SET

• Big 3-1/2" O.D. PANEL RAISER 3 pc. set ~~$179.95~~ Now $149
• RAIL/STILE CUTTER
• RAIL END CUTTER
PANEL RAISER ALONE ~~$59.95~~ Now $50

BEX AIR STAPLER OR NAILER with 5,000 staples or nails **$99.95**

SOLID CARBIDE SPIRAL BITS $15.00 each

NEW Concept in Router Bit Cabinet Door Construction!!

The SY brand 3" Panel Raiser with undercutter in 5 profiles automatically provides a 1/4" tongue, and your panels and rail & stile are at the same height. Complete with bearing for template and freehand cutting.

$59.95

2-5/8" O.D. Panel Raisers in the 5 profiles above – **$29.95** each.

FOR THE SHAPER

3 mm thick C-2 carbide, ¾" Bore w/½" Bushing

Straight

SY-1212-1 1/4" $24.95
SY-1212-2 3/8" $26.95
SY-1212-3 1/2" $28.95
SY-1212-4 3/4" $32.95
SY-1212-5 1" $35.95
SY-1212-6 1-1/2" $36.95
SY-1212-8 2" $59.95

Flute

SY-1223-1 1/4" $24.95
SY-1223-2 3/8" $26.95
SY-1223-3 1/2" $28.95
SY-1223-4 3/4" $32.95
SY-1223-5 1" $35.95

Bead

SY-1224-1 1/4" $24.95
SY-1224-2 3/8" $26.95
SY-1224-3 1/2" $28.95
SY-1224-4 3/4" $32.95
SY-1224-5 1" $35.95

Corner Round

SY-1225-1 1/4"R $24.95
SY-1225-2 3/8"R $26.95
SY-1225-3 1/2"R $28.95
SY-1225-4 3/4"R $35.95
SY-1225-5 1"R $49.95
SY-1225-6 1¼"R $49.95

FOR THE ROUTER!

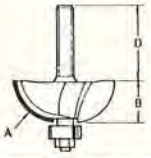
Dovetail

PART NO.	D	PRICE
802	3/8	$7
804	1/2	$7
* 804-1/2	1/2	$7
806	9/16	$8
810	3/4	$9
* 810-1/2	3/4	$9
* 812-1/2	1	$12

Flush Trimming

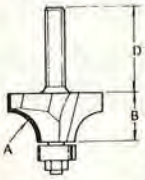
PART NO.	A	PRICE
S8012Y	3/8	$7
S8016Y	1/2	$8
* S8016Y½	1/2	$8
S8020	5/8	$10
* S8020½	5/8	$10

Cove Bits



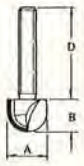
PART NO.	A	PRICE
S702Y	1/16	$12
S704Y	1/8	$12
S706Y	3/16	$12
S708Y	1/4	$13
S710Y	5/16	$14
S712Y	3/8	$15
S716Y	1/2	$16
* S716Y-1/2	1/2	$16
* S724Y-1/2	3/4	$28

Roundover



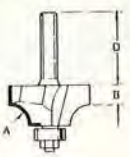
PART NO.	A	PRICE
S502Y	1/16R	$11
S504Y	1/8R	$11
S506Y	3/16R	$11
S508Y	1/4R	$12
S510Y	5/16R	$13
S512Y	3/8R	$15
S516Y	1/2R	$16
* S516Y-1/2	1/2R	$16
* S520Y-1/2	5/8R	$20
* S524Y-1/2	3/4R	$20
* S528Y-1/2	7/8R	$34
* S532Y-1/2	1R	$34
* S536Y-1/2	1-1/4R	$40

Core Box



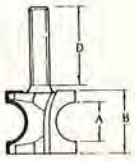
PART NO.	A	PRICE
S408	1/4	$10
S412	3/8	$10
S416	1/2	$12
S420	5/8	$14
S424	3/4	$15
* S424-1/2	3/4	$15
* S432-1/2	1	$18
* S450-1/2	1-1/2	$30

Beading



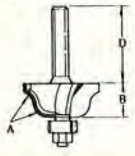
PART NO.	A	PRICE
S602Y	1/16R	$11
S604Y	1/8R	$11
S606Y	3/16R	$11
S608Y	1/4R	$12
S610Y	5/16R	$13
S612Y	3/8R	$15
S616Y	1/2R	$16
* S616Y-1/2	1/2R	$16
* S624-1/2	3/4R	$20

Bull Nose



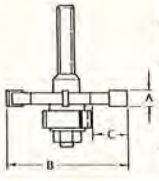
PART NO.	A	PRICE
SY9-1	1/4	$14
* SY9-1½	1/4	$14
SY9-3	3/8	$15
* SY9-3½	3/8	$15
SY9-4	1/2	$15
* SY9-4½	1/2	$15
SY9-5	5/8	$16
* SY9-5½	5/8	$16
SY9-6	3/4	$16
* SY9-6½	3/4	$16
* SY9-8½	1	$18
* SY9-9½	1-1/8	$30
* SY9-10½	1-1/4	$35
* SY9-11½	1-3/8	$38
* SY9-12½	1-1/2	$40

Roman Ogee



PART NO.	A	PRICE
S5705Y	5/32	$16
* S5705Y½	5/32	$16
S5708Y	1/4	$18
* S5708Y½	1/4	$18

Slot Cutter - 4 Flutes



PART NO.	A	PRICE
SY7002	1/8	$20
* SY7002½	1/8	$20
SY7004	5/32 (4mm)	$22
* SY7004½	5/32 (4mm)	$22
SY7006	3/16	$22
* SY7006½	3/16	$22
SY7008	1/4	$24
* SY7008½	1/4	$24

*Indicates ½" shank.

Only $495 Frt. Incl.

CAS-15 WOODSHAPER

- 1½" HP, 2 speed, Reversible
- ¾" and ½" spindles
- 1.2" vertical spindle travel • Holddown clamps
- Individual fence assembly adjustment
- ½" and ¼" router collets

The Ultimate Router Table

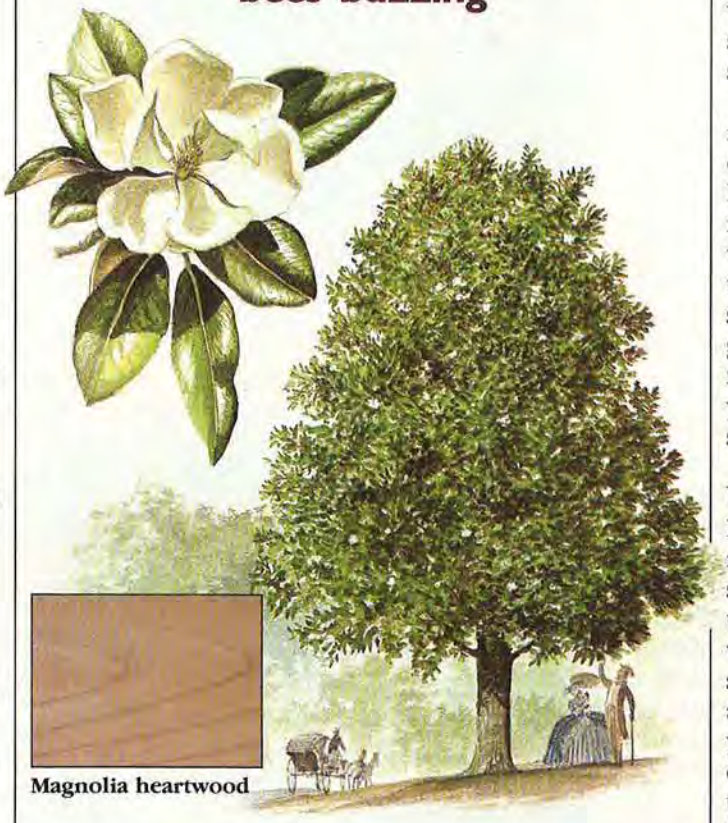
MC/VISA/COD USERS ORDER TOLL FREE
1-800-235-0272
IN WASHINGTON STATE CALL 1-236-0272
7AM - 7 PM Monday through Friday (P.T.)

MasterCard VISA

THE #1 MAGAZINE FOR HOME WOODWORKERS
AUGUST WOOD® 1989
Print this article

MAGNOLIA

The hardwood that sets bees buzzing



Magnolia heartwood

Referring to the tree's large and showy blooms, botanists call magnolia the most splendid tree in America's forests. Early settlers, though, were more impressed with practicality than beauty. In the southern reaches of the Allegheny Mountains, these hardy pioneers collected the conelike fruits that followed magnolia's flowers, then steeped and distilled them into a medicine said to ward off "autumnal fever."

In far more ancient times, the magnolia and its blooms actually played a major role in the evolution of hardwood trees. It seems that conifers, the dominant tree in primeval woodlands, relied on the whims of the wind for pollination and survival. The magnolia, however, developed the trait of producing fragrant flowers that attracted voracious beetles. Then, just as bees do now, the beetles traveled from tree to tree, reliably pollinating and propagating the species.

Today, southern magnolia and cucumber, its cousin, represent a significant slice of the southeastern hardwood lumber industry. Marketed as magnolia, both woods find their way into the hands of knowing craftsmen.

Wood identification

You'll find cucumber (*Magnolia acuminata*) in mixed hardwood stands from southern New York to Florida, and west through Illinois to Iowa and Texas. Southern magnolia (*Magnolia grandiflora*) prefers the warmer areas of the range. Other species of magnolia, cultivated as ornamentals due to their blooms, may grow as far north as Wisconsin, but not in commercial quantities.

In the forest, cucumber can measure 100′ tall and 4′ or more in diameter. Its brown, deeply furrowed bark resembles that of elm. In late May and June, the tree sports greenish-yellow flowers hiding amidst its leaves. Southern magnolia, with its scaly, light gray-green bark, averages only 80′ tall and seldom attains 3′ in diameter. Fragrant, creamy white flowers, often 10″ across, decorate its branches from June through October.

Similar in weight to cherry, the wood of both magnolias is light yellowish-brown and plain-featured. Sometimes, it contains purple-colored mineral streaks that add interest.

Working properties

Magnolia has hard, fine-textured, straight-grained wood that some people might mistake for maple. And, like maple, magnolia works easily with power tools. It also won't warp when thin-sawed, turns well, and steam bends.

Because magnolia resists splitting and glues exceptionally well, you'll have no trouble joining it. You can plane the wood to a smooth surface that requires little sanding. Due to its fine grain, you won't have to fill before finishing with your choice of paint, stain, or clear coatings.

Uses in woodworking

Because magnolia remains stable after seasoning, it was once the standard wood for venetian-blind slats. That same stability makes it an acceptable substitute for yellow poplar. Cabinet carcases and furniture, toys, and interior trim, all fair well when made of this widely unappreciated wood. Use it for turned bowls and other food containers, too, since it doesn't impart a taste or carry an odor.

Cost and availability

Where it's sold, magnolia usually costs the same as yellow poplar, about $1.25 per board foot. In the South and Southeast, you'll find it more readily available, and in boards up to 2″ thick. Four-inch square turning stock also is marketed. Due to lack of demand, magnolia isn't made into veneer.

Illustration: Steve Schindler
Photograph: Hopkins

KNIFEMAKER WALT EASLEY FORGES AHEAD IN PREMIUM

THE 400-FISH FILLET KNIFE WITH

When he's not forging blades, shaping a handle, or honing an edge, knifemaker Walt Easley fishes, hunts, and traps. An outdoorsman through and through, he makes his home in Gladbrook, Iowa (pop. 970). There, the nearby river valleys, lakes, and woodlots that break up the neighboring farmland offer all the challenges he seeks. Not surprisingly, it was his outdoor interests that launched his knifemaking career.

"It was about 18 years ago," says Walt. "I just got sick and tired of filleting two fish and having to resharpen my knife! Anything on the market dulled pretty fast."

A knifemaking friend got Walt started. "I only made fillet knives at first, and sold them to folks I knew. Then, I got laid off from my job as a supervisor with International Harvester. And, in my early forties, I didn't think I'd find another job. The solution was to make knives full-time." Now Walt, 60, offers a complete line of knives, and Lillian, his wife and partner of 40 years, crafts all the sheaths.

Print this article

CUTLERY

THE MIRACLE-WOOD HANDLE

Iowa knifemaker Walt Easley claims, "The handle of a knife is 75 percent of its appeal, but only a fraction of the work." Yet, that appeal helped sell about 1,000 fillet knives last year from his line of sporting blades and cutlery.

Willie Nelson totes one of Walt's knives on fishing trips. So does Willie's hunting and fishing buddy, fellow country singer Eddie Rabbit. Televison fishing show stars Virgil Ward, Greg Ward, Tony Dean, and Gary Roach own and use them, too. And, at fishing tournaments, you're likely to spot Linda England and Freida Lee, known on the professional fishing circuit as "The Bassin' Girls," carrying Easley knives in their tackle boxes.

How can you identify one of Walt's fillet knives? By the handle, of course.

HIGH-TECH WOOD HANDLES THAT TAKE ABUSE

Walt's years of knifemaking have encompassed lots of research and quite a few experiments. He's toyed with different types of steel, blade shapes, and handle contours to improve his line. Perhaps his most remarkable discovery, though, was the high-tech, miracle wood that he forms into handles on 95 percent of his blades.

"I've used walnut, rosewood, ebony, cocobolo, Osage orange, tulipwood, antlers, horn, and ivory. You name it and I've probably made a knife handle out of it," says Walt. "That was, of course, before I found out about Pakkawood®."

About five years ago, Walt and Lillian were displaying their wares at a Kansas City gun show, when he spotted a piece of unusual, multicolored wood on another exhibitor's table. "I asked the gun dealer about it, and he said the product was sometimes used for gunstocks and compound bows. I bought a chunk, took it home, and made a knife handle," Walt remembers.

Since then, he's become a real fan. "Ebony makes really good handles, and rosewood, too, but you have to seal them or any wood with oil or polyurethane," Walt notes. "And whatever finish you use will eventually wear off and have to be renewed. Pakkawood doesn't require a finish, and there's no wood that can stand up to the abuse it will take."

As raw stock, Pakkawood hardly resembles wood at all. That's because it's made of ultra-thin (about 1/32") real wood veneers vacuum impregnated with dyes and phenolic resins, then pressed together under 2,000 pounds per square inch pressure. When worked, though, the grain becomes bold and exotically patterned. The colors grow vivid, and depending on the colors of the combined dyes, naturally complementary to each other or strikingly contrasted. Textureless and rock-hard, the substance doesn't feel like wood, either. "The manufacturing process makes the wood veneers about 200 percent stronger than solid wood," he states.

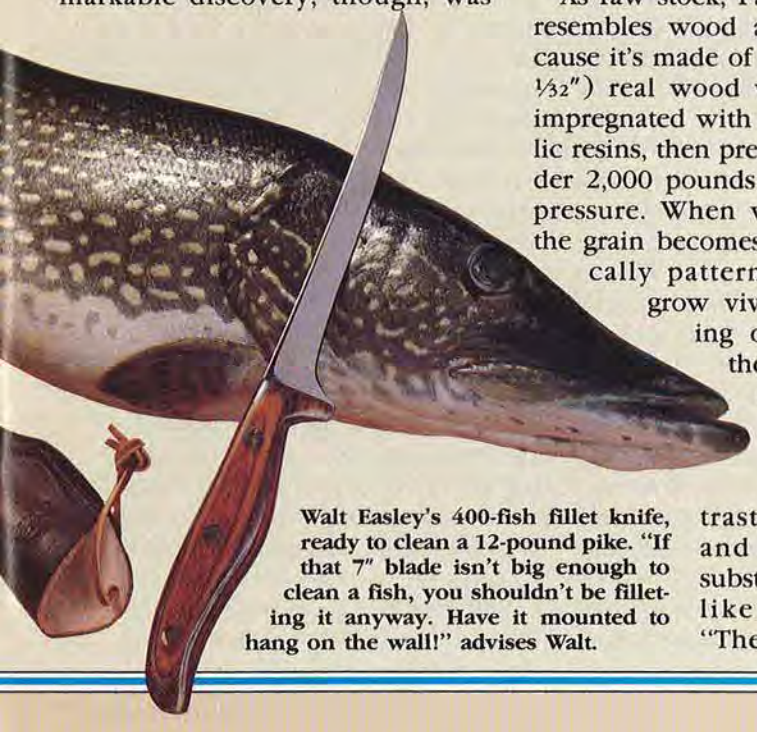
"Nicks and scratches buff out. And, when Pakkawood gets wet, you can actually grip it better, due to the resin count," Walt continues. "Water won't hurt it—we put one of my kitchen knives (shown *below*) in the dishwasher for three months with no effect!" (For more information about this material, see the end of the article.)

GETTING A GRIP ON A KNIFE

According to Walt, a knife fits when you can grasp it in your palm without the handle rubbing the heel of your hand. "I have a pretty average-sized hand, so I grip every knife I make to see how it feels because I'm trying to hit a happy medium. For the fillet knives, I make handles in a variety of sizes because I want them to fit a variety of people," he explains. "When someone comes to me to order a knife, I check out their hands while we're talking. If they're larger than mine, I make the handle a little bigger, and vice versa."

Sportsmen's knifes, both for skinning and filleting, should be "handle-heavy," notes Walt. "That's so if

Continued



Walt Easley's 400-fish fillet knife, ready to clean a 12-pound pike. "If that 7" blade isn't big enough to clean a fish, you shouldn't be filleting it anyway. Have it mounted to hang on the wall!" advises Walt.

"Kitchen cutlery to match the best available—and dishwasher-safe to boot." That's what Walt claims of his new line of knives. The "peapicker" at bottom sells for $13; the cleaver, $66.

you should lose your grip, the blade won't fall from your hand."

With his line of kitchen cutlery, Walt opened a new chapter on handles. "I found out that large-handled kitchen knives don't give you any leverage for slicing. I made mine narrow in profile so when the thumb rests on top to push or guide, the fingers tuck up against it. They're different, but comfortable."

STEEL BENDS FULL CIRCLE

Unlike many sportsmen, Walt's not prone to bragging. He'll tell you flatly, though, that his blades do hold an edge for a long time.

"That fillet knife is probably good for 400 fish between sharpenings," he says, with nothing except honesty showing on his wind-and-sun-hewn face. "Nevertheless, I always say about 40." Longlasting sharpness should be a hallmark of any fine quality knife, but a working fillet knife must be even more. "A filleting blade must have body to cut through a fish's ribs, yet enough flexibility to cut flat," says Walt. "If the blade won't flex, then the handle and your hand get in the way."

If flex is that important, Walt's fillet knives just may be overqualified. His will bend full circle, then spring back to original shape! Not that Walt advises buyers to mistreat an Easley knife—there's a limit to what his knives can do. "A lady sent one of my knives back for replacement under my guarantee," he recalls. "The tip was broken completely off. It looked as if she had pried something with a back-and-forth motion until the tip broke. I sent her a new knife, along with a screwdriver to use next time."

NO TO-DO OVER STAINLESS

Finding high-quality steel strong enough to hold an edge, yet springy enough to bend without breaking or taking a set was a definite challenge in Walt's knifemaking. Add to that the fact that most buyers also want blades that won't rust or stain, and Walt had, for awhile, a real dilemma going.

In the foreground, stamped, tempered blades ground to rough profile. Standing in back, fillet and hunting knives from Walt's product line.

"I wanted a high-carbon steel that would hold an edge, but high-carbon steel will eventually rust," he explains. "Stainless won't rust or stain, but I couldn't heat treat it so that it would hold an edge for very long. There's lots of talk about how good stainless is, but if it is so tough, why don't they make saw blades from it?"

Finally, Walt settled on a high-carbon tool steel. "In the trade, it's called 'Ten-nine-five' [1095]—10-grade steel, and .95 percent carbon," he notes. "Hard, to hold an edge, but not brittle. Then, to keep it from staining and rusting, I alloyed it with vanadium."

Walt's vanadium blades test about 54–56 on the Rockwell scale. Some knives by other makers test out higher. He's satisfied, however: "The trouble with a high Rockwell-rated blade is brittleness—the edge doesn't roll, it breaks."

Sharp blades start with quality steel. But, there's many a step from the raw steel to the blade.

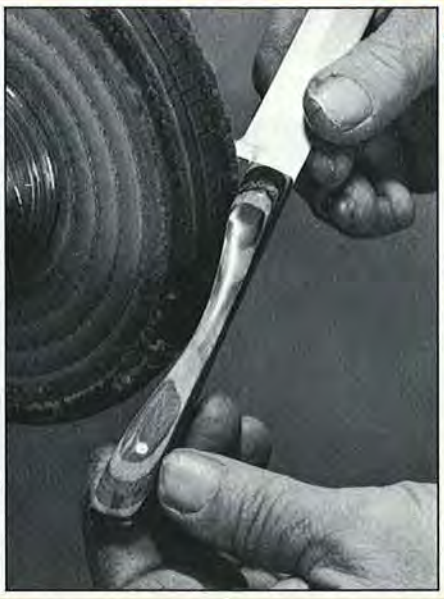
Walt once forged all his blades himself. Now, he has them forged and tempered in a nearby city by someone he trained and trusts. The blades come to him black and hammered, but at his grinder, each one takes on its final profile. He smoothes their surfaces and shapes the angle of their cutting edges at his stationary belt sanders, progressing from 60-grit to 300-grit metal-grinding belts. For a final polish, Walt buffs them on a muslin wheel with a talc-like compound.

THE HANDLE BEFORE THE EDGE

Fitting and shaping the handle takes but a few minutes. For fillet and hunting knives, Walt rivets-on the ⅜"-thick handle stock. To withstand the ravages of water and washing, Walt pins and epoxies the handles on his kitchen cutlery.

Back at the grinder again, he takes down the stock, conforming

With a 60-grit belt, Walt grinds the laminated wood handle of a large meat slicing knife.



At the buffing wheel, the knife handle and blade take on a high luster. Pakkawood requires no finish.

it to the handle shape on the blade's tang (see photos, *above*). Now smooth and contoured, the handle takes on a high sheen at the muslin wheel.

He's now ready for the final touch: sharpening. "I do all the sharpening on the fine grinding belt, by eye," he says. "I grind fillet knives at about an 18-degree bevel so the edge slides into the cut. The others get about a 20-degree angle. Too wide an angle, the edge wedges and creates resistance.

"After sharpening," adds Walt, "I buff the blade. Then, I engrave my signature on it."

NOT A MISTAKE, JUST A NEW KNIFE

Walt won't show or sell a knife with a flaw. "I never have any seconds. If I mess one up, I grind it down for another style of knife, or, it goes in the garbage."

Grinding down a mistake was, in fact, how Walt stumbled upon the tiny paring knife he calls the "pea picker." As he explains, "I ground too deep in the handle of a knife, so I continued to grind, as kind of an experiment. Finally, it got quite tiny and I could barely hang on, so I buffed it up and gave it to Lil. Well, she had just gotten 18 pounds of fresh strawberries that morning. Turns out, she stemmed all 18 pounds with that little knife, then told me I'd better start making them. I did."

For more about Pakkawood, write: Adam's Pakkawood Corp., Dept. WE, P.O. Box 831, Holyoke, MA 01041.

WALT'S TIPS ON BLADE CARE

- "A ceramic sharpening stick will bring an edge back. A sharpening steel only straightens an edge. If a knife gets real dull, use an Arkansas stone."
- "To sharpen a fillet knife, lay the blade almost flat on the stone. It has to have a flat angle or it will have too much resistance when you cut."
- "You have to protect high-carbon knives from rusting and pitting. A sheath, for instance, should be only lined with vegetable-tanned leather. Regular leather has salt in it."
- "Kitchen knives shouldn't go into the dishwasher. The moisture isn't good for traditional wood handles. And, the changing temperature dulls a blade by rearranging the steel's molecules."

WANT TO MAKE A FIRST-RATE EASLEY KNIFE?

We liked Walt Easley's knives at first glance. Later, after we tried out a few, the fillet knife especially impressed us. "Why not give *WOOD*® magazine readers a chance to make one?" we thought. Now, you can, and at half retail price!

Walt has assembled a kit (shown *above*) to make his $40 fillet knife. It includes:

- a polished and honed vanadium steel blade pre-punched for rivets;
- pre-bored and countersunk Pakkawood handle stock (in three colors, *below*);
- five brass rivets for attaching handle (includes two extra);
- complete assembly and finishing instructions.

Walt has priced the complete kit at $20 ppd. For an additional $6.50, you'll receive one of Lillian's top-grain leather sheaths for your knife.

To order: Send check or money order for total amount payable to Easley Knives, to *Walt Easley, Knifemaker, Box 478, Gladbrook, IA 50635.* Specify color (Lava, Red-White-Blue, Mesquite). Allow 4–6 weeks for delivery.

Written by Peter J. Stephano
Photographs: Hopkins Associates

Print this article

CABINET CLEANUP TRICKS

FROM OUR RESIDENT WOODWORKING PRO

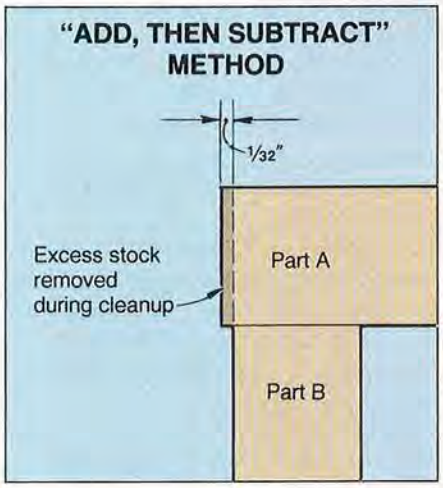
Contrary to what you might expect, savvy cabinetmakers don't put off sanding, scraping, and other cleanup work until after they have completed a project. The real pros plan for cleanup as part of the building process. Why? "Because it makes for a better end result, and when you're woodworking for hire, it's results that count," according to Jim Boelling, our *WOOD®* magazine project builder. And he should know because he's built more than his share of cabinets for us and for others during the past 20 years.

We followed Jim around the shop one afternoon not long ago, and listened and watched as he explained his tried-and-true techniques for prepping his work for the final finish. And, we weren't surprised when he gave us more than our money's worth in woodworking wisdom, which we'd now like to pass on to you.

THINK CLEANUP FIRST, THEN START BUILDING

Before cutting your first piece of wood for any project, anticipate which parts you will cut strong (oversized). Doing this provides you a small margin (about 1/32") of waste material at joints. Why? You achieve a clean, flush joint by removing extra stock during the cleanup process.

The drawing *above right* shows how this "add, then subtract" method applies to a simple butt joint. "I cut the cabinet top (part A) so it will overlap the cabinet side (part B) by about the thickness of a dime after assembly. This margin enables you to clean up any



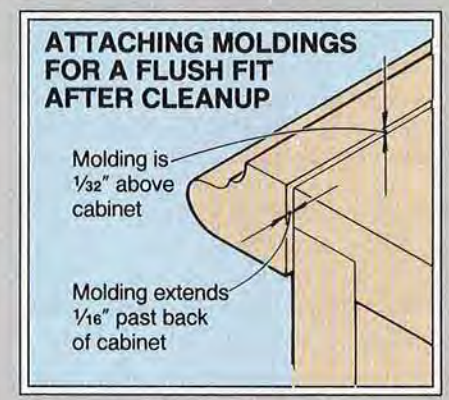
saw marks and hardened glue squeezeout after assembly," Jim says. You can use this process throughout the cabinet construction process. For instance, it also pays to leave cabinet shelves about 1/32" wide before positioning them between two cabinet sides, then work the shelves flush.

It's especially important to leave yourself this margin if you're using thin-veneer plywood. For example, if you assemble the joint in the illustration *above* perfectly flush to begin with, you might end up sanding through the veneer on part B when you clean up part A.

HOW TO MAKE A MOLDING FLUSH WITH A SURFACE

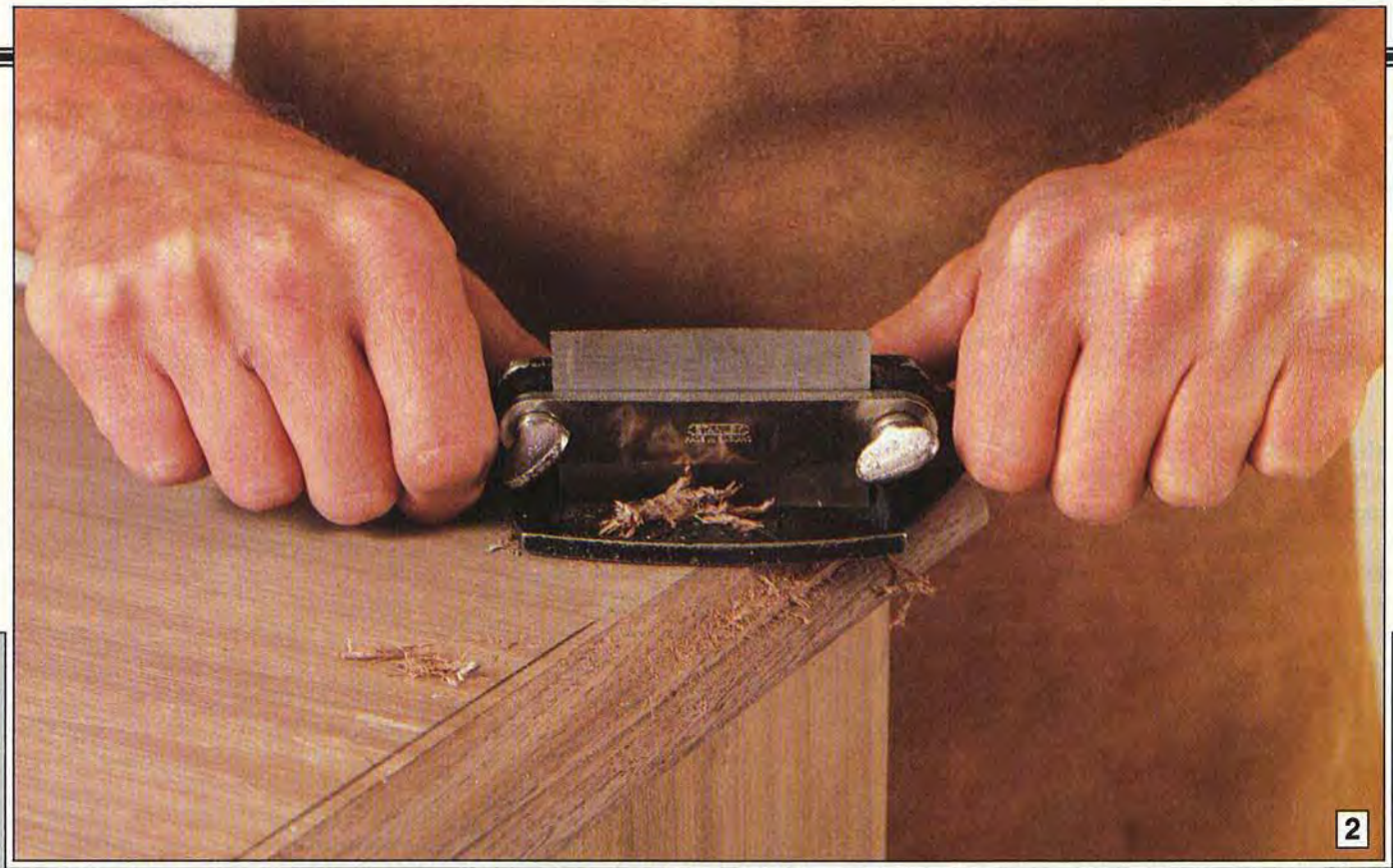
You can use the same "add, then subtract" method described at *left* to work moldings flush to a cabinet top. The tools and techniques shown in the sequence at *right* also apply to other exposed joints.

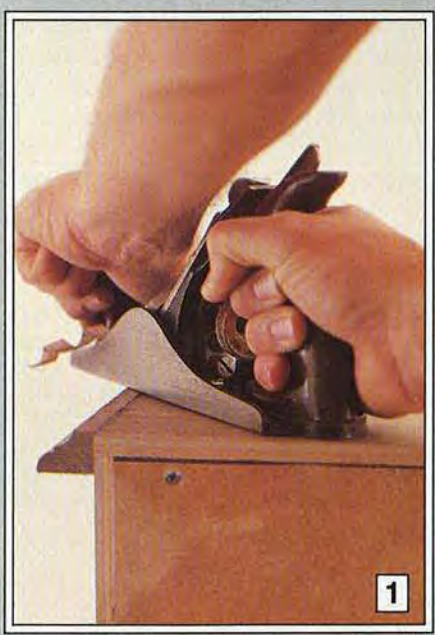
First, cut all the mitered ends of the moldings and test them for fit. Then, glue molding onto the carcase approximately 1/32" *high* to provide waste along the top edge of the cabinet as shown *below*. After

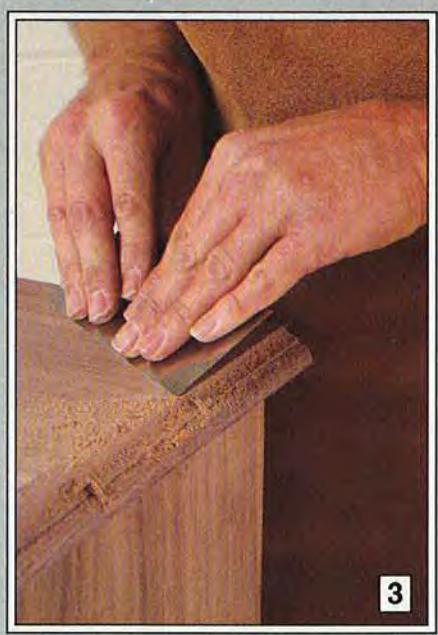


the glue skins over (about 30 minutes), remove squeeze-out with a hand scraper. Then, use a smoothing plane to remove most of the waste, as shown at *right*. "Stroke the plane at an angle toward the outside edge of the molding, and stop when the surfaces are almost flush," Jim advises.

Now, mark a pencil line on the cabinet top about 1/4" away from







◀ *Step 1:* To work the molding flush with the cabinet top, start with a smoothing plane for fast stock removal.

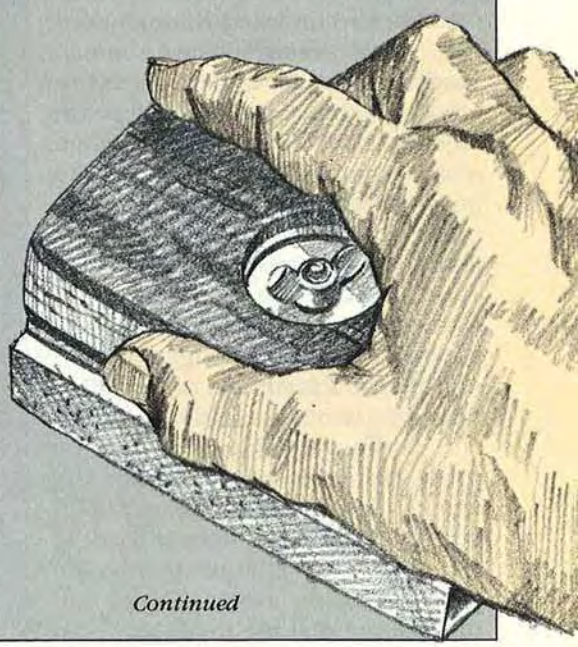
▲ *Step 2:* Next, draw a pencil line running parallel to the joint and use a cabinet scraper until the line disappears.

◀ *Step 3:* If you notice any minute imperfections after sanding, remove them with a hand scraper.

the joint line and parallel to it. Next, with a sharp cabinet scraper, bring the joint flush and remove marks left by the plane as shown *top*. When the pencil line disappears, quit scraping.

Then, sand the joint smooth with a hardwood sanding block such as the one shown at *right*, using a succession of 180- and 220-grit papers. Sand with the grain of the cabinet top—not the molding—and be careful not to round over the outside edge of the molding.

If minute sanding marks remain, follow up with a hand scraper as shown *above*. "With a scraper, you can quickly remove small scratches without introducing more sanding marks to the surface," Jim says.



Continued

DON'T SAVE THE SANDING FOR LATER

After cutting and milling all of your project pieces, clean up those parts and surfaces that would be difficult—or impossible—to do after assembly. Such parts might include the inside surfaces of the carcase and drawers, the edges of a raised-panel insert, and "plant-on" parts, such as moldings, decorative plaques, and filigrees.

After scraping the beveled portion of a raised panel, we switched to a hardwood sanding block.

As shown *above*, it pays to finish up the beveled edges of a raised panel before inserting it into a door frame. After using a hand scraper, sand with a hardwood sanding block to achieve a smooth, flat surface and crisp edges. Sand through a succession of 100, 150, and 220-grit papers. Because cross-grain edges require more sanding than other edges, clean up those first. Then, smooth the remaining two edges by lowering those to the profile of the cross-grain edges. Finally, smooth the flat surface of the panel with the same succession of grits. "It's also a good idea to stain the panel before inserting it into the frame," our resident pro adds. "If you stain the panel after it's in the frame, it may shrink across the grain, exposing a thin line of unstained wood along the edges."

Sand convex surfaces by wrapping sandpaper around a felt pad.

A PRO'S PROCEDURE FOR SANDING PROFILES

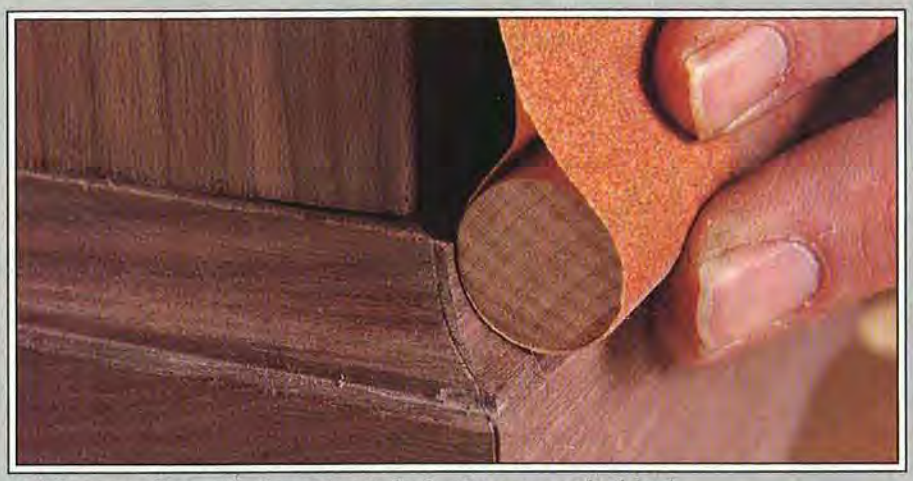
Whether you buy milled moldings or shape your own, the profile always needs touching up. First, sand all the concave (inward curved) surfaces.

To do this, wrap the sandpaper around a dowel that's long enough to fit comfortably in your hand (4–6") and that's equal to or slightly smaller than the radius of the surface being sanded as shown on the opposite page. If you use a larger-diameter dowel, it will flatten the sharp profile edges and you'll lose the original molding shape.

Then, sand the convex (outward curved) surfaces, wrapping the sandpaper around a piece of ¼"-thick sheet cork (available at many hardware and craft stores) or the rib of a felt chalkboard eraser as shown at *left*.

Finally, clean up the flat shoulders (outside corners) and inside corners with a hardwood sanding block as shown *below*. Using the block ensures sharp, crisp lines.

Sand inside and outside corners with a hardwood sanding block to maintain sharp lines. The block should have square bottom corners for best results.



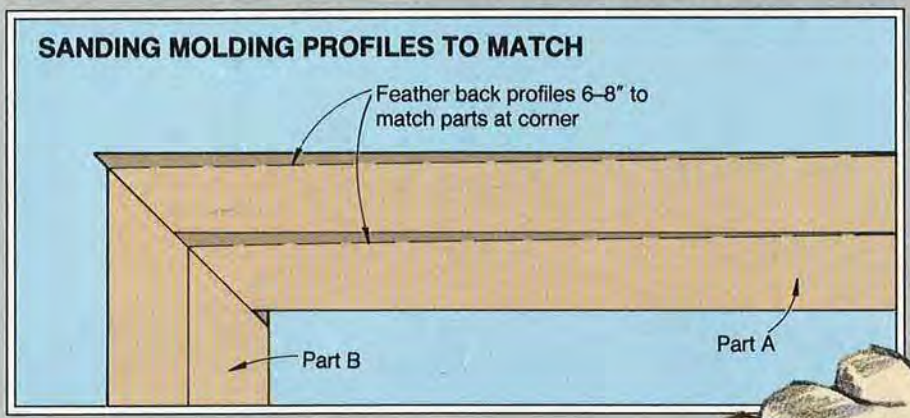
Judicious sanding will give mismatched miters a matched look.

HOW TO MANAGE A MISMATCHED MITER

It's not easy to cut and assemble a perfectly mitered joint. You can make exact and true cuts, but one or both of the pieces may creep out of alignment after you've glued and clamped them in position. Even an expert like Jim Boelling admits to the occasional mismatched miter. His advice: Take care of any problem miters before cleaning up molding profiles as described on the previous page. Here's how Jim handles troublesome miters.

First, determine if you can true-up the mitered corner without ruining the appearance of the project. "If the mismatch is, say, more than 1/16", remove the offending part before the glue dries and try again. You'll be happier in the long run," Jim advises.

To correct minor mismatches like the one shown *above*, follow the procedure illustrated *below*. First, sand off the projecting tip of Part A to make it flush with the outside edge of part B. While sanding, gradually feather back the profile about 6" to 8" from the corner. Sand the length of pieces less than 8" long.



THE FINISHING TOUCHES

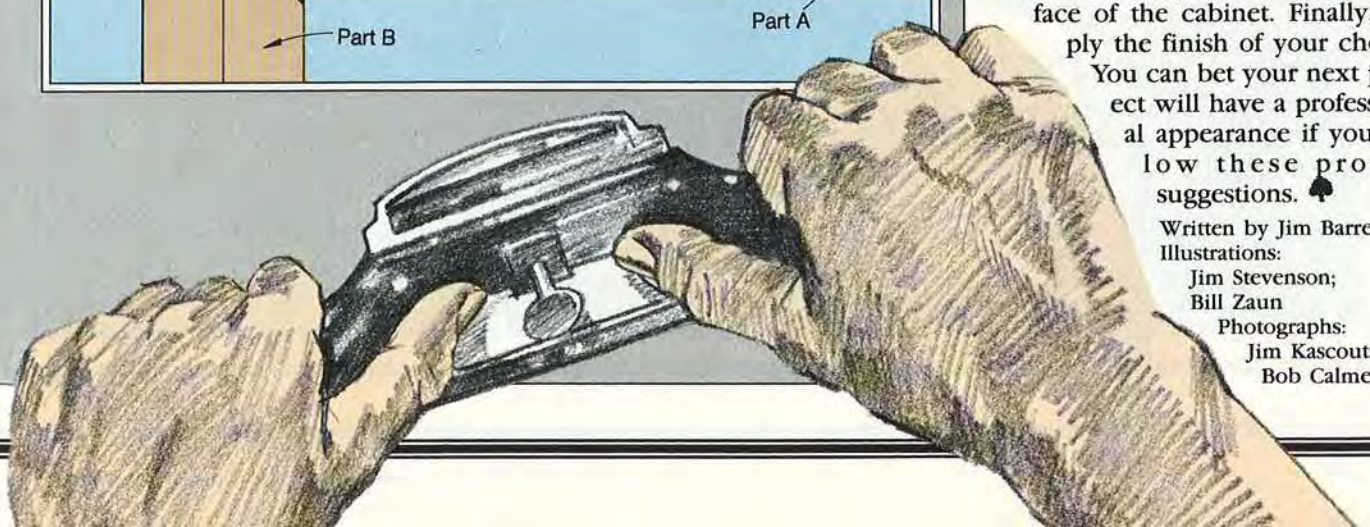
Even if you put meticulous care into cleanup at every step, there are always some final touches to add. After cleaning up the molding profiles, "break" (round over) all the sharp edges with fine sandpaper (220- or 320-grit). Hold the paper in your hand and use a light touch to remove a minimum of stock.

Finally, sand the back end of the molding (leave the molding 1/16" long during construction as shown in the drawing on page 34) and back edges of the cabinet carcase flush with the hardboard back as shown *below*.

Hold the belt sander at an angle to avoid splintering the end of the molding.

Once finished with the carcase, repeat the final cleanup process on the doors, drawers, and any other subassemblies, removing stock as required to ensure a proper fit. Then, vacuum or blow excess dust off the cabinet and wipe down all surfaces with a rag dampened in mineral spirits. This reveals any fine scratches, glue marks, or other minor imperfections you may have missed, and removes most sanding dust from the the wood pores. After removing these blemishes, vacuum any remaining dust from the surface of the cabinet. Finally, apply the finish of your choice. You can bet your next project will have a professional appearance if you follow these proven suggestions. ♠

Written by Jim Barrett
Illustrations:
Jim Stevenson;
Bill Zaun
Photographs:
Jim Kascoutas;
Bob Calmer



SHAKER SIMPLICITY

Of all the magnificent designs Shaker furnituremakers left behind as a testament to their skills, none is more universally recognized than the ladder-back chair. Not only was this the most widely sold chair they made, I think it's also one of their most handsome.

Our chair derives its enduring utilitarian lines from a Harvard Shaker chair built around 1850. I adhered closely to measured drawings, but raised the seat about 1" for comfort, and eliminated finials from the chair back for simplicity.

After you construct our jig and drilling guide, you can build a set of chairs with ease. The chairs match well with the trestle table featured in our April 1989 issue.

J. R. Downing, Design Editor

Bill of Materials

Part		Finished Size T	Finished Size W	Finished Size L	Matl.	Qty.
JIG AND DRILL GUIDE						
A	bottom layer	¾"	9"	46"	P	1
B	second layer	¾"	3⅞"	46"	P	2
C	third layer	½"	3⅞"	46"	P	2
D	top layers	¾"	1½"	46"	P	4
E	dowel clamp	¾"	1½"	2¼"	M	1
F	drill guide	¾"	*	11"	P	2

Material Key: P-plywood, M-maple
*This dimension will depend on the diameter of your router base. See End View and Drill Guide drawings and read the instructions for determining this dimension.
Supplies: 6d finish nails, #8×1½" flathead wood screws, finish.

Print this article

START WITH THE CHAIR-LEG JIG: IT'S A REAL TIME-SAVER!

***Note:** The key to drilling and routing the holes and mortises in the correct location in each chair leg is accomplished with our chair-leg jig and drill guide. Take your time when building the jig and guide.*

1 From ¾" plywood, cut the chair-leg jig parts (A, B, C, D) to the sizes listed in the Bill of Materials. [We resawed a piece of ¾"-thick plywood to form the ½"-thick layer (C). You could use ½" plywood.]

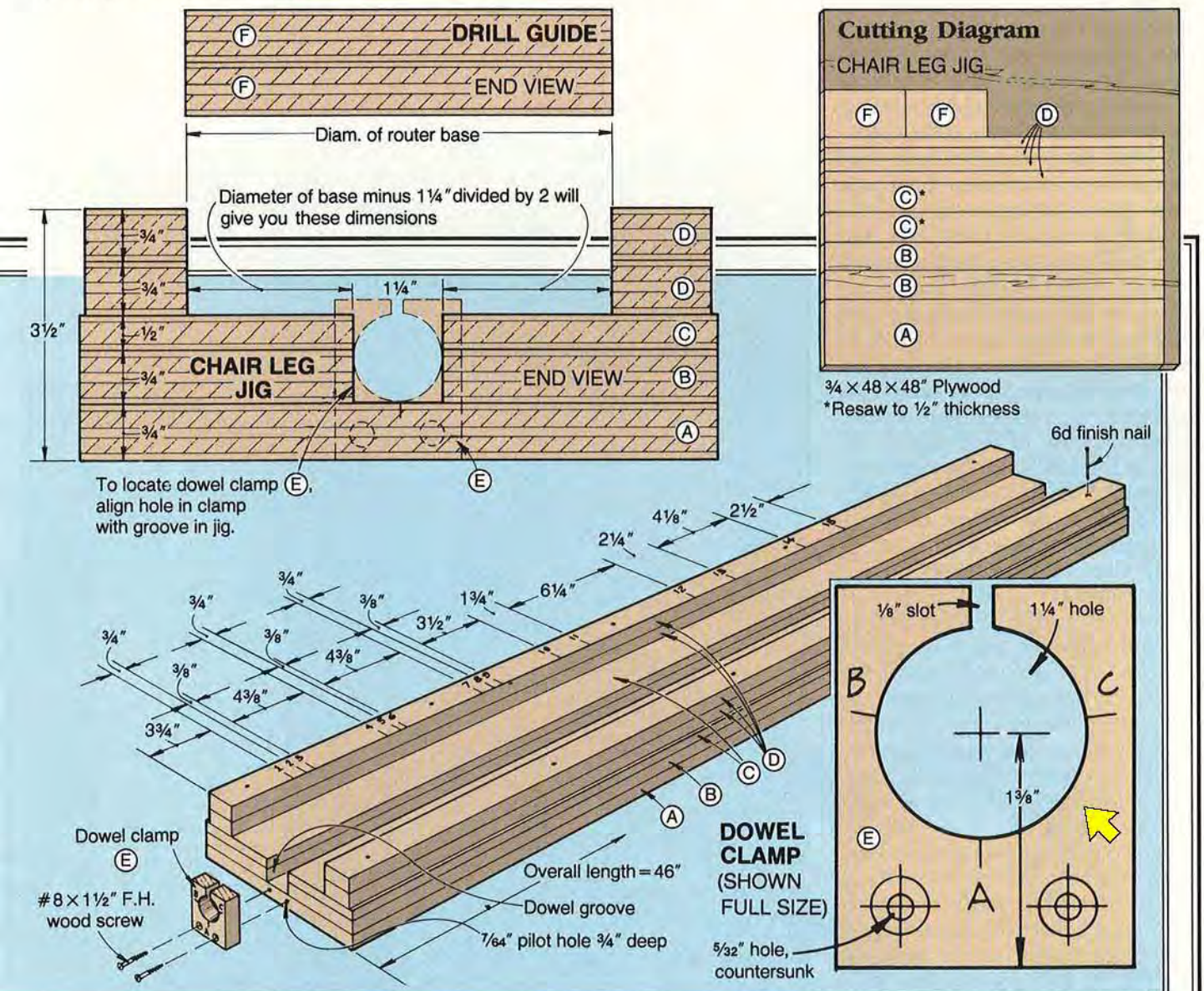
2 With the inside edges and ends flush, glue and nail together the bottom three layers (A, B, C) where shown on the End View Drawing. Keep the gap between parts B and C exactly 1¼" the entire length of the jig for a snug fit of the 1¼"-diameter leg dowels.

3 For this jig to work as it should, you must position the top two layers of the jig (D) so that the router will be centered over the 1¼" recess (and ultimately over the chair-leg dowels). Refer to the End View Drawing for positioning particulars. Now, glue and nail the top layers into position.

4 Lay out and number the reference lines on the jig where shown on the Chair Leg Jig Drawing.

5 Cut the dowel clamp (E) to size from ¾" solid stock (we used maple). Now, using carbon paper or by adhering a photocopy, transfer the centerlines for the 1¼" hole and the two 5⁄32" holes, as well as reference marks A, B, C, from the Dowel Clamp Drawing to the solid stock. Drill the 1¼" hole, and cut a ⅛"-wide slot to the 1¼" hole. Drill and countersink the two 5⁄32" holes.

Continued


DRILL GUIDE
END VIEW
Diam. of router base
Diameter of base minus 1¼" divided by 2 will give you these dimensions
CHAIR LEG JIG
END VIEW
To locate dowel clamp (E), align hole in clamp with groove in jig.
Cutting Diagram
CHAIR LEG JIG
¾ × 48 × 48" Plywood
*Resaw to ½" thickness
6d finish nail
Dowel clamp
#8 × 1½" F.H. wood screw
Overall length = 46"
Dowel groove
7⁄64" pilot hole ¾" deep
DOWEL CLAMP (SHOWN FULL SIZE)
⅛" slot
1¼" hole
5⁄32" hole, countersunk

SHAKER SIMPLICITY

6 Center the hole in the dowel clamp against the 1¼"-wide recess, and screw the clamp to the end of the jig (see the End View for reference). Set the jig aside for now.

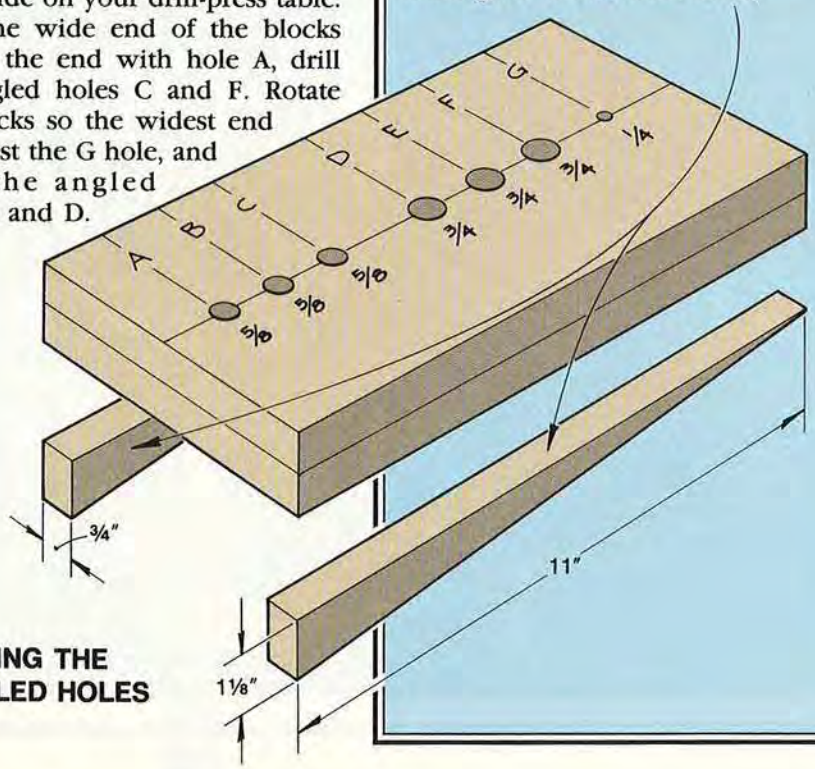
BUILD THE DRILL GUIDE

1 From ¾" plywood, cut the two guide pieces (F) 11" long and as wide as the diameter of your router base. Glue and nail the pieces together with the edges and ends flush. Later, scrape off the excess glue and check the fit of the guide in the chair-leg jig.

2 Mark a centerline along the length of the drill guide where shown on the Drill Guide Top View. Mark reference lines perpendicular to the centerline to locate centerpoints for the ¼", ⅝", and ¾" holes where shown on the drawing. Mark the letters and hole sizes on their corresponding reference lines where shown *below*.

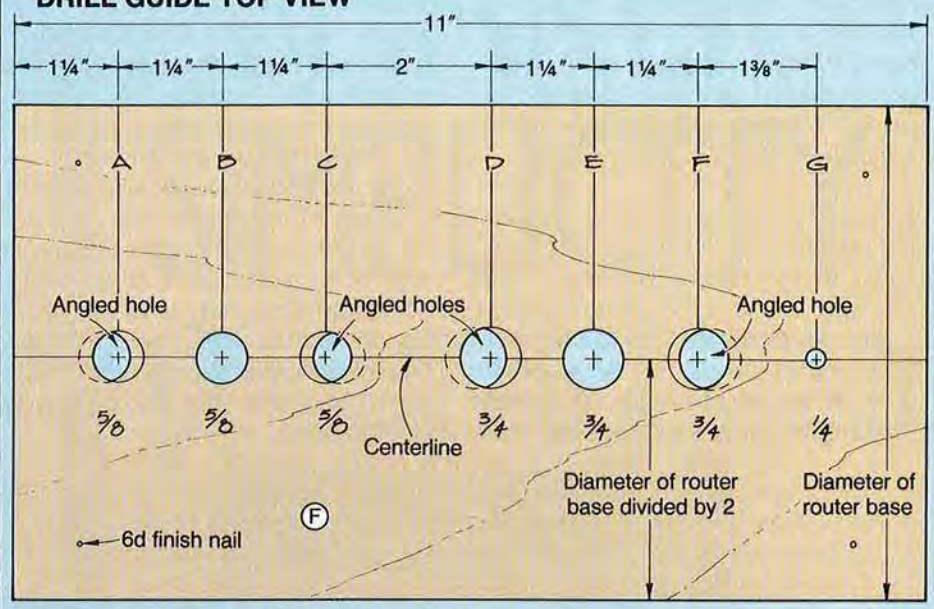
3 Using brad-point drill bits and your drill press, bore the nonangled holes (B, E, G) through the guide.

4 To bore the angled holes, first cut a pair of wedge-shaped blocks to the size shown on the drawing *below*. Position the blocks under the drill guide on your drill-press table. With the wide end of the blocks nearest the end with hole A, drill the angled holes C and F. Rotate the blocks so the widest end is nearest the G hole, and drill the angled holes A and D.

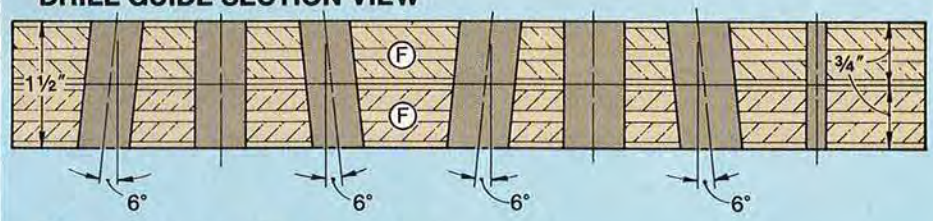


BORING THE ANGLED HOLES

DRILL GUIDE TOP VIEW



DRILL GUIDE SECTION VIEW

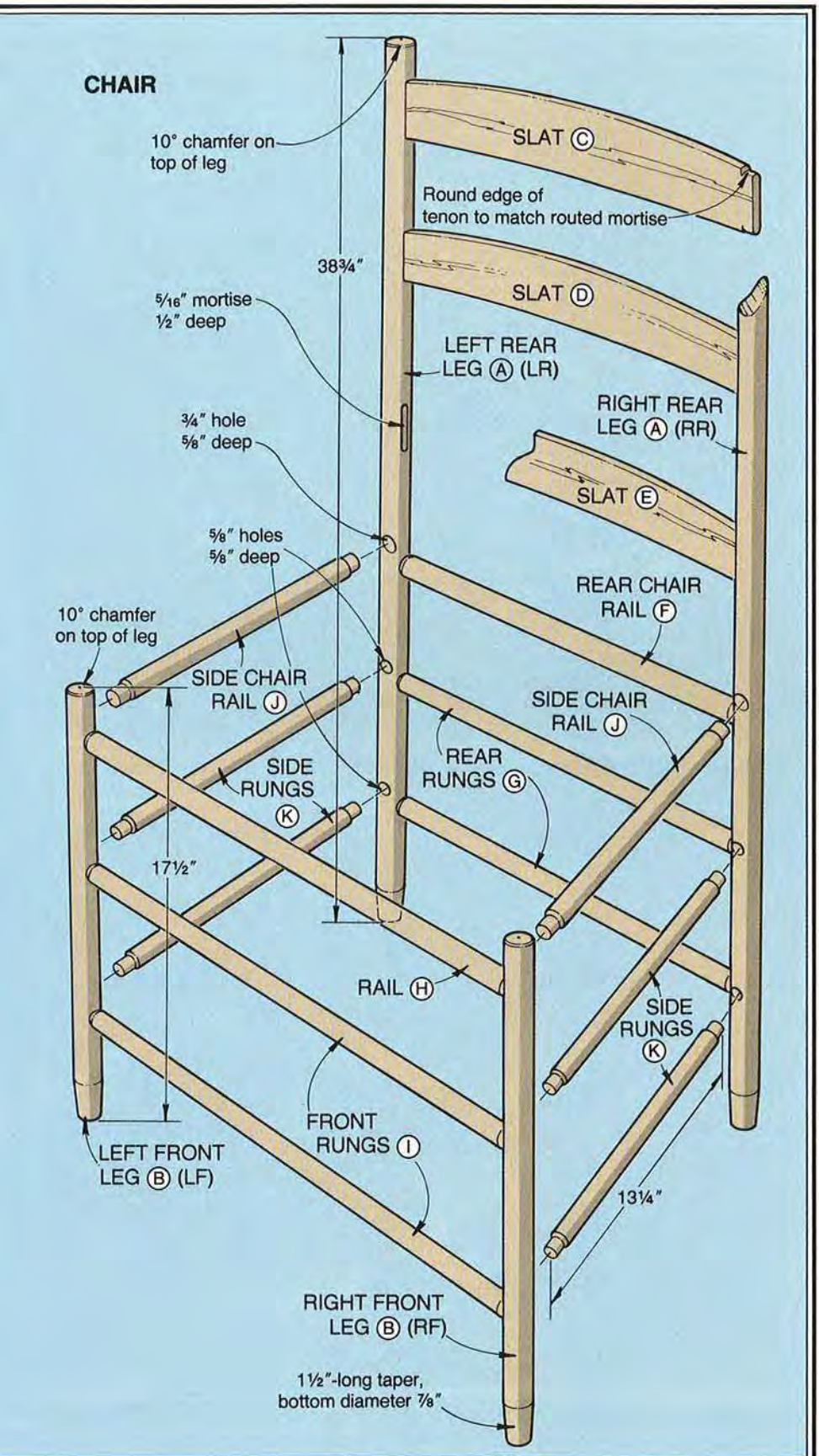


Wedge blocks positioned for drilling holes C and F. (Place 1⅛"-high end under opposite end of guide to drill holes A and D.)

Bill of Materials

Part		Finished Size T	W	L	Matl.	Qty.
SHAKER CHAIR						
A	rear legs	1¼" diam.		38¾"	OD	2
B	front legs	1¼" diam.		17½"	OD	2
C	top slat	1 1/16"	3½"	13"	O	1
D	middle slat	1 1/16"	3¼"	13"	O	1
E	bottom slat	1 1/16"	2¾"	13	O	1
F	rear rail	1" diam.		13¼"	OD	1
G	rear rungs	¾" diam.		13¼"	OD	2
H	front rail	1" diam.		16¾"	OD	1
I	front rungs	¾" diam.		16¾"	OD	2
J	side rails	1" diam.		13¼"	OD	2
K	side rungs	¾" diam.		13¼"	OD	4

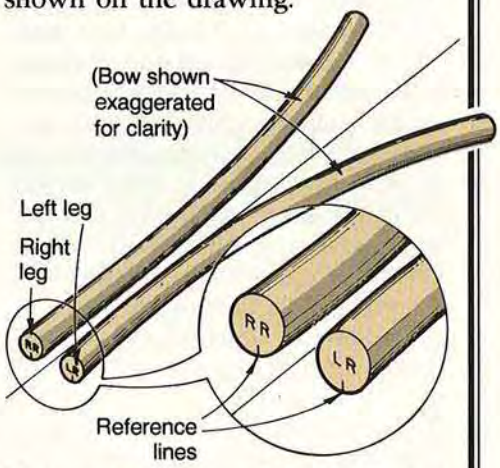
Material Key: OD-oak dowel, O-oak



NOW, LET'S START BUILDING THE CHAIR

***Note:** The instructions, Bill of Materials, Buying Guide, and Cutting Diagram give the directions and number of pieces needed to build a single chair. To make additional chairs, be sure to machine all identical pieces at the same time to ensure uniformity.*

1 Select the two straightest 48"-long dowels for the back legs (A). (We've noticed that nearly all of them have a slight bow—see the Buying Guide for our source.) To make sure both back legs bend in the same direction on the finished chair—toward the back—lay the dowels on a flat surface and position the bows as shown on the drawing *below*. Mark a reference line on one end of each dowel at the 6 o'clock position where shown on the drawing.



2 Mark RR (for right rear) on the same end as the reference line on one oak dowel, and LR (for left rear) on the second dowel.

3 Slide the RR dowel into the 1¼" recess in the jig and into the dowel clamp until the marked end of the dowel is flush with the outside face of the dowel clamp. Rotate the dowel to align the reference line on the dowel with reference line A on the dowel clamp as shown in the photo on the following page. The top edge of the dowel should be flush with the top face of jig parts C. You might have to tap the dowel in place with a rubber mallet.

Continued

SHAKER SIMPLICITY

4 Using a handscrew clamp, tighten the dowel clamp to prevent the dowel from turning in the jig when drilling the holes in the next step.

5 Position the drill guide in the jig, aligning reference line B on the drill guide with the marked number 1 on the jig as shown in the photo at *right*. Clamp the guide to the jig. Using a ⅝" brad-point bit, bore ⅝" deep into the dowel.

Note: *To prevent enlarging or changing the angle of the holes in the drill guide, lower the bit through the hole until it makes contact with the dowel. Start the drill and bore the hole. Stop the drill before removing it from the guide. (To drill the right depth, we wrapped tape on our bits.)*

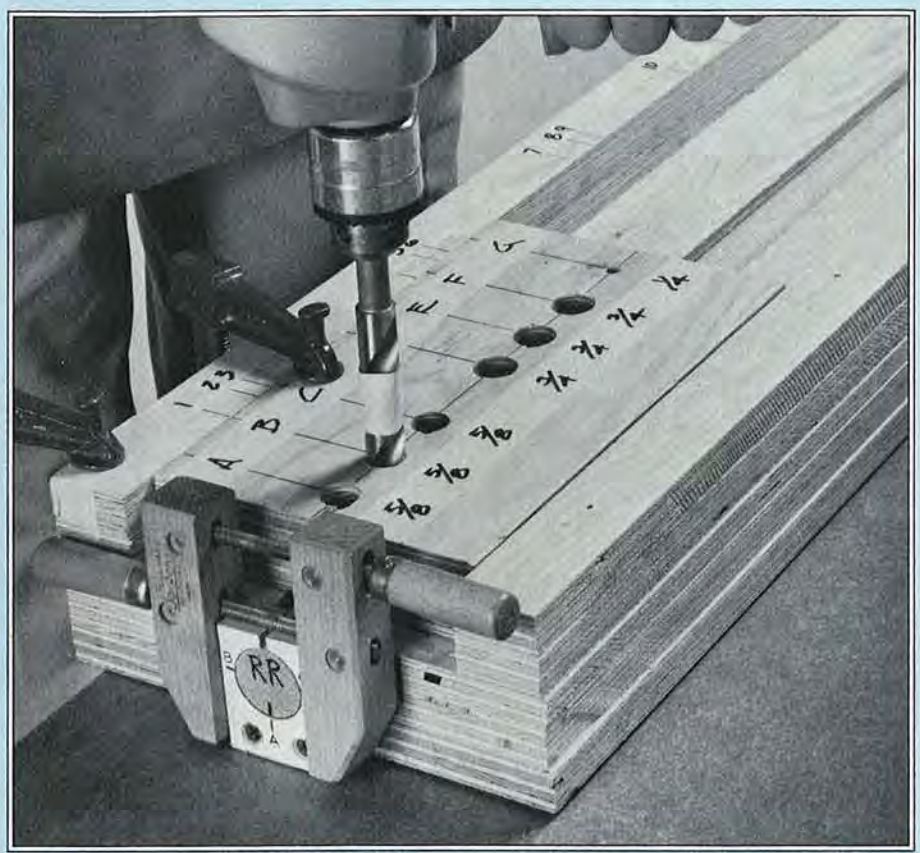
6 Referring to the Drilling Guide Chart, move the drill guide to the second setting (B4), and drill a second ⅝" hole. Continue moving the guide along the jig and drill holes E7, G10, G11, G12, G13, G14, and G15 to the sizes noted on the chart.

7 To create the ½"-deep mortises for the chair-back slats, chuck a 5/16" straight bit into your router. As shown in the photo at *right*, slowly lower the rotating bit into one ¼" hole and rout to the next ¼" hole. Be sure to grasp the router firmly—it tends to jerk entering the second ¼" hole when finishing the cut. Repeat this routing procedure to form the other mortises.

8 Remove the handscrew clamp from the dowel clamp. Twist the chair-leg dowel until the marked reference line on the end of the dowel aligns with reference line C on the dowel clamp. Again, secure the dowel in the dowel clamp. Drill holes C2, C5, and F8 as noted on the chart for the RR dowel.

9 Remove the RR leg from the jig and cut the top end for a finished length of 38¾". Using the Drilling Guide Chart, follow the same procedure used above to drill the holes in the left rear leg.

10 Cut the front legs (B) to length (17½"). Mark a reference line on one end of each leg, and use the chart to bore the holes in both legs.



Align the ⅝" hole (reference line B) in the drill guide with the marked number 1 on the chair-leg jig, and drill a ⅝"-deep hole.

Lower the 5/16" straight bit into the ¼ hole, and rout between a pair of ¼" holes to form the 5/16"-wide mortises for the backrest slats.

DRILLING GUIDE CHART

Dowel-Clamp Setting	Jig—Guide Setting	Hole Size
RIGHT REAR LEG		
A	B1	5/8"
A	B4	5/8"
A	E7	3/4"
A	G10	1/4"
A	G11	1/4"
A	G12	1/4"
A	G13	1/4"
A	G14	1/4"
A	G15	1/4"
C	C2	5/8"
C	C5	5/8"
C	F8	3/4"
LEFT REAR LEG		
A	B1	5/8"
A	B4	5/8"
A	E7	3/4"
A	G10 thru G15	1/4"
Same Drilling Sequence as Right Rear Leg		
B	C2	5/8"
B	C5	5/8"
B	F8	3/4"
RIGHT FRONT LEG		
A	B1	5/8"
A	B4	5/8"
A	E7	3/4"
B	A3	5/8"
B	A6	5/8"
B	D9	3/4"
LEFT FRONT LEG		
A	B1	5/8"
A	B4	5/8"
A	E7	3/4"
C	A3	5/8"
C	A6	5/8"
C	D9	3/4"

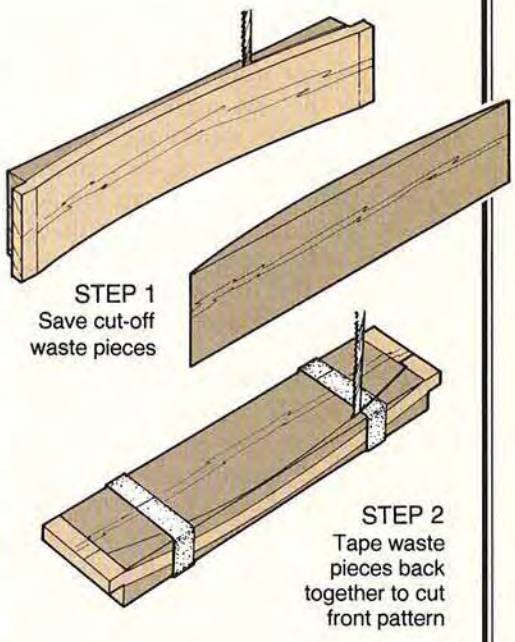
SHAPE THE SLATS AT THE BANDSAW

1 From 1 1/16" oak (5/4 stock), cut the top slat (C), middle slat (D), and bottom slat (E) to the sizes listed in the Bill of Materials.

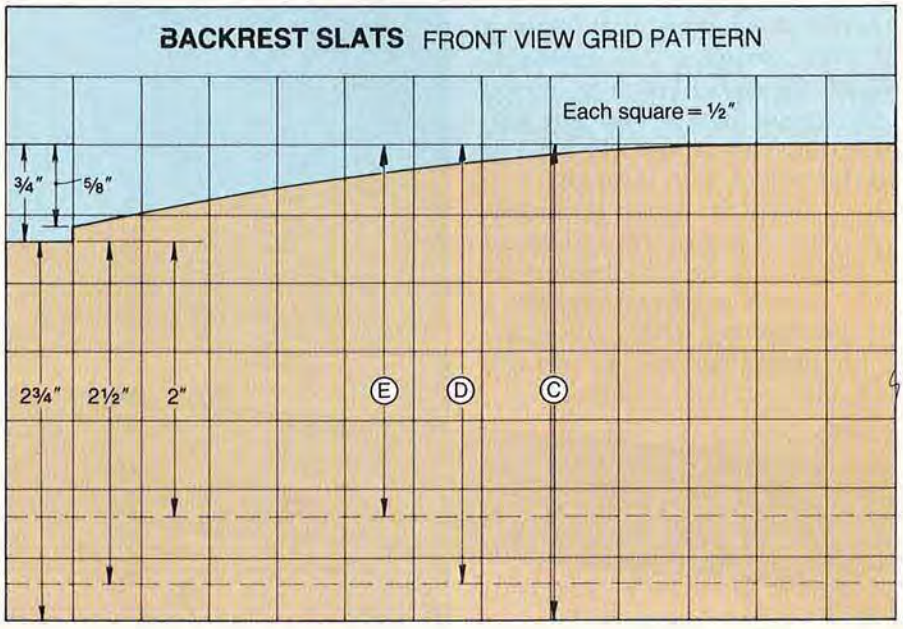
2 Cut a 1/2" rabbet 3/4" deep across the ends on the back face of each slat blank. (See the Top View on the Backrest Slats Drawing *below* for reference.)

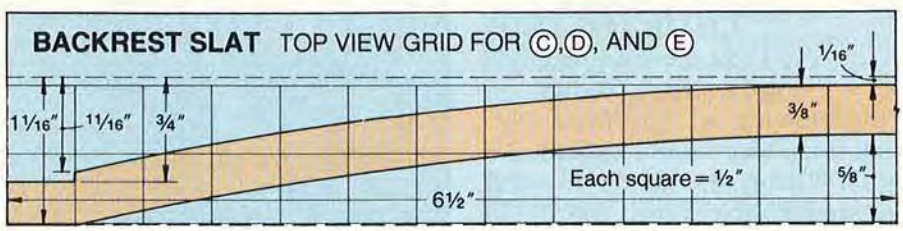
3 Transfer the cutlines to the *top edge* of each slat blank, using the Top View for reference. (We transferred the cutlines to a piece of 1/4" hardboard. Then, we cut the hardboard to shape and used it as a template to mark all the slat tops.) Bandsaw the front and back of each slat to shape as shown on Step 1 of the two-step drawing at *right*. Tape the front and back scrap pieces onto the bandsawed slat—it's easier to mark and cut the slats with a flat front and back edge.

4 Using the Front View for reference, mark the cutline on the scrap front face of each slat. Now, bandsaw the top edge of each slat to shape as shown on Step 2 of the drawing *above*. Remove the taped-on scrap pieces. (Again, we used a piece of 1/4" hardboard as a template to mark the curved portion along the top of each slat.)



Continued





SHAKER SIMPLICITY

5 As shown at *right*, sand each slat to remove the saw marks.

6 Sand a slight round-over along the top and bottom of the tenons on each slat. (See the Chair Drawing for reference.) Check the fit of the slats into their corresponding mortises in the rear chair legs. Do not glue them in place yet.

TENON THE RAILS AND RUNGS WITH YOUR ROUTER

1 Cut the rear rail (F) and rungs (G), the front members (H, I), and the side members (J, K) to the lengths listed in the Bill of Materials from ¾" and 1" oak dowels.

2 Cut and shape a V-grooved block like the one shown at *right*.

3 Chuck a ½" straight bit into a table-mounted router and position the fence where shown on Step 1 of the three-step drawing *above right*. Rotate the dowel by hand to rout ⅛" into the ends of rails F, H, J. Check the fit of the tenons in their mating holes. (We practiced routing scrap dowel stock until we had the settings right.)

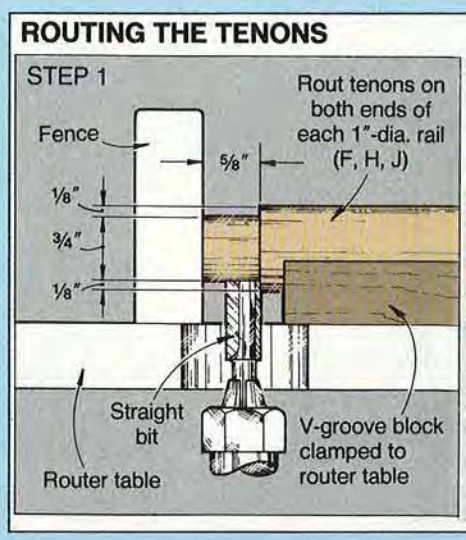
4 Adjust the router bit to make a 1/16" cut, leaving a ⅝" tenon ⅝" long on the ends of each ¾" dowel as shown on Step 2. Rout the tenons on the chair rungs (G, I, K) as you did before with the rails.

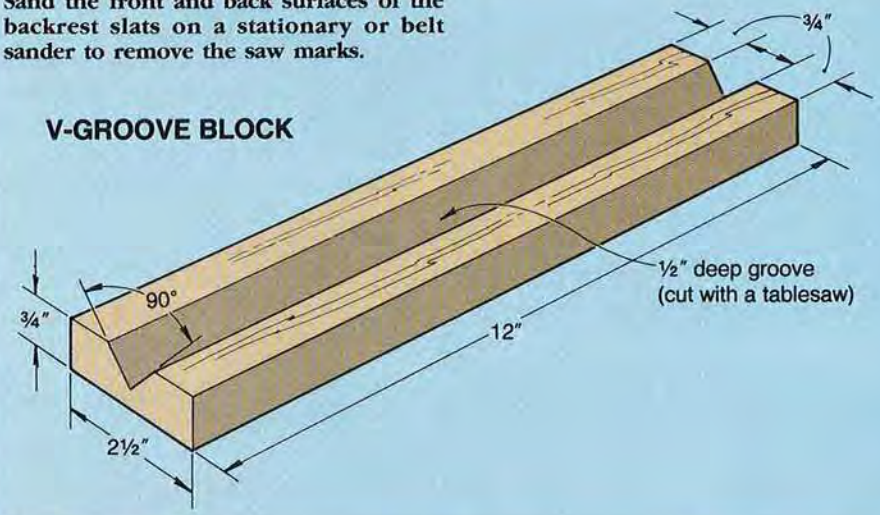
5 To chamfer the tenon shoulders, switch to a V-groove bit and adjust the height to rout the chamfers on the 1" dowels as shown on Step 3 of the drawing. Then, adjust the bit height for the ¾" dowels and rout their chamfers.

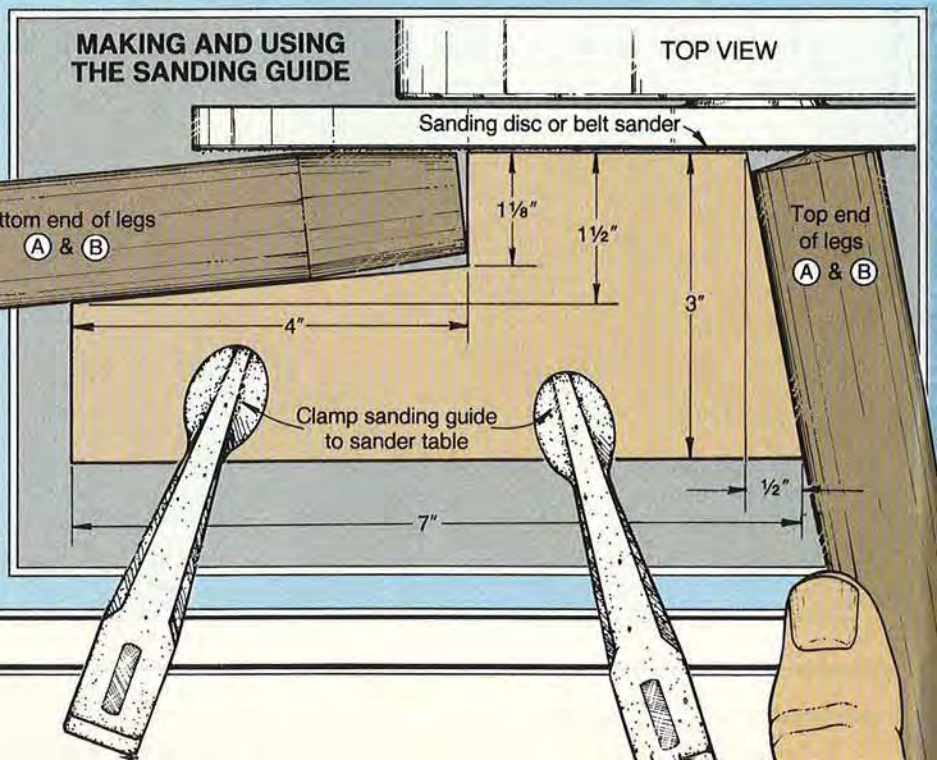
HOW TO SHAPE THE CHAIR LEG ENDS

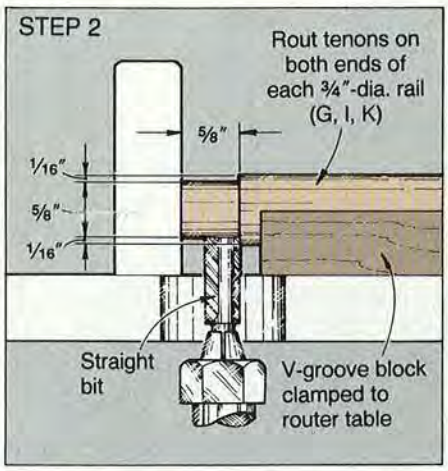
1 Cut the sanding guide to the shape shown on the drawing at *right* from 1½"-thick stock (we used a section of a 2×4). Clamp the guide to your disc-sander table (you also could

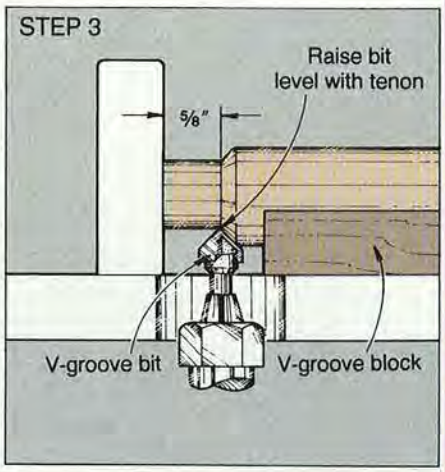
Sand the front and back surfaces of the backrest slats on a stationary or belt sander to remove the saw marks.











WEAVING THE SEAT

STEP 1. Cut 2" radius from front corners of foam cushion. Tape cushion in place. Remove tape after completing Step 4.

STEP 2. Nail end of fabric tape to bottom side of top back rail. Wet cut end of tape with glue to prevent fraying.

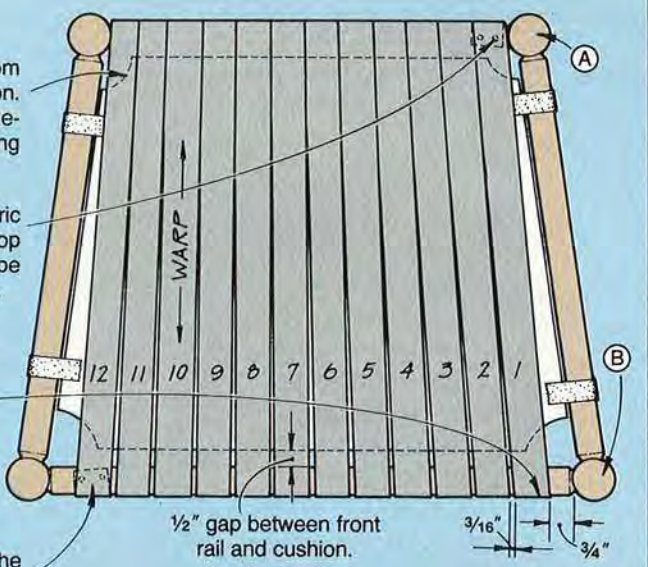
STEP 3. Pull the warp over the top of the front top rail, then back around under the bottom of the rear rail. Repeat all the way across the width of the chair, keeping the warps tight.

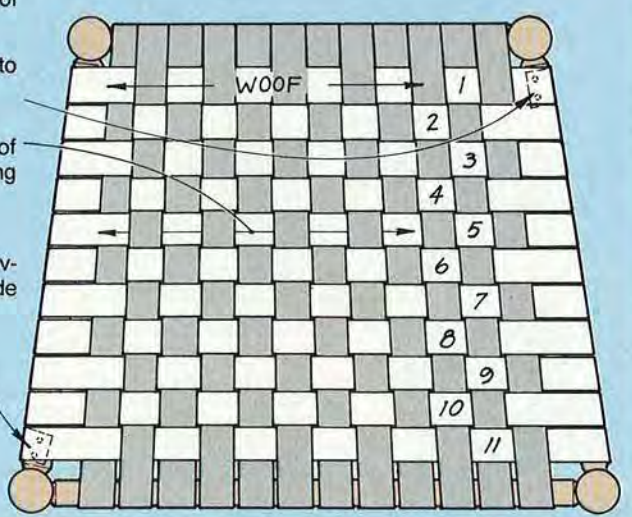
STEP 4. Nail the end of the twelfth warp to the bottom of the rail.

STEP 5. Nail end of woof to bottom side of side rail.

STEP 6. Weave woof through the warps, keeping the woofs tight.

STEP 7. Nail end of eleventh woof to the bottom side of the side rail.





use a belt sander on a stand). Using the Top-View Drawing for reference, sand a 10° chamfer on the top end of each chair leg (A, B)

2 Sand a 1½" taper on the bottom of each chair leg where shown on the Top View Drawing.

ASSEMBLE AND FINISH YOUR SHAKER CHAIR

1 On a flat surface, glue and clamp together the chair-back assembly (A, C, D, E, F, G). (We used clamp blocks to prevent denting the oak dowels.) With a framing square, check for square and wipe off excess glue with a damp rag.

2 Use the same procedure to assemble the front (B, H, I).

3 Glue the side rails and rungs (J, K) between the front and back assemblies. (Because of the angled front and back, we used band clamps—bar clamps have a tendency to slip on the angled legs.)

4 Later, remove the clamps and finish-sand the chair. Apply stain and finish (we used polyurethane).

ADD THE WEBBING AND TAKE A SEAT

***Note:** The seat weaving kit described in the Buying Guide comes complete with weaving instructions. Although you can follow their instructions, we have simplified the procedure as shown at left.*

BUYING GUIDE

- **Oak dowels.** Three 1¼×48" oak dowels, two 1×36" oak dowels, and four ¾×36" oak dowels (enough for one chair). $29.80 ppd. from Woodworks, 4500 Anderson Blvd., Fort Worth, TX 76117. Or, call 817/281-4447.
- **Seat-weaving kit.** 25 yards of 100% cotton webbing, foam cushion, tacks (enough for one chair). Call for list of chair tape colors. $25 ppd. from Shaker Workshops, P.O. Box 1028WM, Concord, MA 01742. Or, call 617/646-8985.

Produced by Marlen Kemmet
Project Design: James R. Downing
Photographs: Hopkins Associates
Illustrations: Kim Downing; Bill Zaun

Print this article

PRESSURE-TREATED

WHAT TO KNOW BEFORE YOU NAIL

A scary thing happens every time we answer a question about pressure-treated wood in our "Ask *WOOD*" department: Without fail, each answer sprouts at least three more questions. We've often wondered out loud if we could ever satisfy all reader questions about this topic.

Knowing that many of you build outdoor projects, we feel it's high time we all became more knowledgeable about pressure-treated wood—green wood as some call it. This article focuses only on lumber treated with chromated copper arsenate (CCA)—the most common wood preservative homeowners handle. Later, you'll read more about wood-preserving chemicals.

Since its introduction more than 50 years ago, pressure-treatment has been wood's best friend for defending attacks from termites, other insects, fungal decay, and rot. Not surprisingly, use of treated wood—both indoors and outdoors—has continued to grow to nearly 300 million cubic feet annually. But perhaps because the Environmental Protection Agency (EPA) didn't issue its final determination on treated wood until 1984, myths swirled around the safety of treated wood. Some rumors still exist.

"If you treat garbage wood, you'll have garbage wood that will last a long time."

David Hoak, owner of a pressure-treating facility

INSIDE A TREATING PLANT

Most of the pressure-treated lumber available to homeowners contains chromated copper arsenate (CCA). Chromium fixes the chemicals in the wood fiber, copper acts as a fungicide, and arsenate is toxic to wood-gobbling termites.

Arsenate sends shivers up some people's backs, but CCA-treated wood contains inorganic pentavalent arsenate or arsenic pentoxide—not the deadly trivalent arsenic used in *Arsenic and Old Lace,* for example. Small amounts of arsenate appear naturally in shrimp, tomatoes, corn, and other foods.

Here's how the chemical solution becomes bonded in the wood:

Wood must be dried to 25 percent moisture content or lower before it can be properly treated. At the pressure-treating facility, employees slide a stack of dried dimensional lumber into a steel pressure cylinder (an average cylinder holds up to 30,000 board feet of lumber). After tightly sealing the tank, a vacuum pump sucks air from the cylinder—and the wood cells. Within minutes, the preservative solution floods the cylinder.

Next, a pressure pump forces more solution into the cylinder—and deep into the wood—until the cylinder pressure reaches 140–180 pounds per square inch. The entire process, called a charge, takes from one to two hours.

After pumps draw off excess solution, the cylinder opens and the stickered wood begins kiln- or air-drying to about 19 percent. The lumber has a yellow cast when it leaves the cylinder. Within hours, though, the wood color changes to the familiar green shade. As the lumber dries, the preservative components react chemically with each other and bond in the wood cells.

When CCA lumber first appeared in the 1930s, some people occasionally noticed an undesirable greenish-white salt residue. Later, the Koppers Company (now the Hickson Corporation) altered their Wolman formula to eliminate the residue. In addition to appearance benefits, metal hardware and fasteners last longer in CCA oxide-treated wood than with the salt process. Major firms, including Weyerhaeuser and Osmose, followed suit.

At Doyle Lumber Company in Henderson, North Carolina, 4×4 posts treated with Osmose chemicals leave a state-of-the art indoor treatment facility.

HOW SAFE IS PRESSURE-TREATED WOOD?

Earlier this year, we bought a treated 2×4×8′ board at five lumberyards and home centers. Through an industry-wide voluntary consumer awareness program, retailers *should* offer EPA-approved "Consumer Information Sheets" to purchasers of treated lumber. These sheets outline safe use of CCA-treated wood. However, two home centers didn't offer the information. Two lumberyards did furnish the sheets, and one home center prominently displayed a sign: "Ask for Information about Treated Lumber."

The biggest treated-wood concern we've noted revolves around leaching questions. After a 10-year study, the EPA ruled CCA-treated wood safe for interior use, play structures, garden edging, and tomato and vineyard stakes. It's safe to eat at CCA-treated picnic tables, but the EPA doesn't recommend CCA-treated wood surfaces for *daily* food preparations such as countertops or cutting boards. And, unless you eat wood, it's unlikely exposure to CCA-treated wood will increase one's risk of cancer.

No, CCA-treated wood doesn't emit vapors or odor. However, the ash from burned treated wood could present a health or environmental hazard if not properly handled. For this reason, you should dispose of scraps and sawdust through trash pickup services. The consumer information sheets do warn of inhaling treated-wood sawdust and recommend wearing dust masks and washing hands after handling treated wood—as you should with any nontreated wood.

LET THE BUYER BEWARE

You do yourself a disservice by specifying only for treated wood at the lumber counter. Ask questions!

What species? Southern pine has become a leader in treated wood because its cell structure seems ideally suited to accept the solution. However, treaters in the West use a lot of ponderosa pine. But, not all lumber treats as well as these two species. Each piece of wood you buy should have a grade stamp that tells the species, grade, and moisture content when inspected.

Treated wood must be identified with a stamp or tag, such as this stamp.

For deck flooring, some lumberyards recommend only #1 lumber. Because the top grade has fewer knots and flaws, it should be less susceptible to warping and twisting. For a 12×12′ deck, the additional cost between #2 and #1 grades should less than $20. We think it's money well spent for the better grade—and fewer problems.

If you buy CCA-treated wood at an unbelievable low price, don't be surprised by the quality. In fact, you may have a hard time finding a grade stamp on some bargain-priced lumber. According to David Hoak, who owns a CCA-treating facility in Rock Island, Illinois, "If you treat garbage wood, you'll have garbage wood that will last a long time."

Also, consider 5/4×6 radiused lumber for decking material. In addition to saving money, this treated wood earns high marks on appearance without giving up strength to span typical deck configurations.

What retention level? Look for a second stamp or tag that tells who treated the wood. You'll learn the retention level by reading the treater's stamp. Wood treated for above-ground use will have 0.25 pound per cubic foot of oxides. Wood intended for ground contact will have in excess of 0.40 pound per cubic foot of oxides—roughly 2 ounces in a 2×4×8′.

Apparently because the 0.40 lumber has nearly twice the oxides of 0.25 lumber, some woodworkers incorrectly use the term "double-treated." In practice, after treated lumber dries, it isn't treated again to a higher level. Be sure to look for a stamp or tag that indicates appropriate use on each piece you buy.

DECK-BUILDING TIPS

Before you start nailing down treated wood, review the consumer information sheet and study the installation pamphlets provided by the treater. Many do-it-yourselfers have found out—too late—that they overlooked these important treated-wood guidelines:

Check local building codes. Before you drive the first nail, make sure you build according to your municipal or county regulations.

Fasten bark-side up. Lee Gatzke, *WOOD* magazine's art director, can

Continued on page 79

LIMELIGHT ON THEIR FACES,

Woodworkers, as a rule, pursue their passion in the solitude of their shop. For many, that's part of the beauty in the hobby they love.

But don't think for a minute that you're in this avocation by yourself. We've found out that more than 11 million Americans and a surprisingly large number of Canadians claim woodworking as a hobby. And, from what we've seen in our travels, there's a lot of creativity expressed in garage and basement shops across North America—that's where we find many of the projects featured in *WOOD*® magazine.

We've uncovered lots more than just interesting projects and ideas when talking to woodworkers. It's the people—all kinds of them—that intrigue us most.

The passion for woodworking seems to span the entire occupational spectrum. And, it encompasses even those people you might assume would be too busy for such a pastime. Such is certainly the case with our subjects for this article: Bill Garrett, editor-in-chief of *National Geographic* magazine; Bob Lilly, former defensive tackle with the Dallas Cowboys; Andy Rooney, *60 Minutes* commentator and author; Edgar Struble, musical director for country music star Kenny Rogers; John Vernon, television and movie actor; and Ted White, Hollywood stuntman and director.

But as you'll find out, these notable people enjoy woodworking every bit as much as you do.

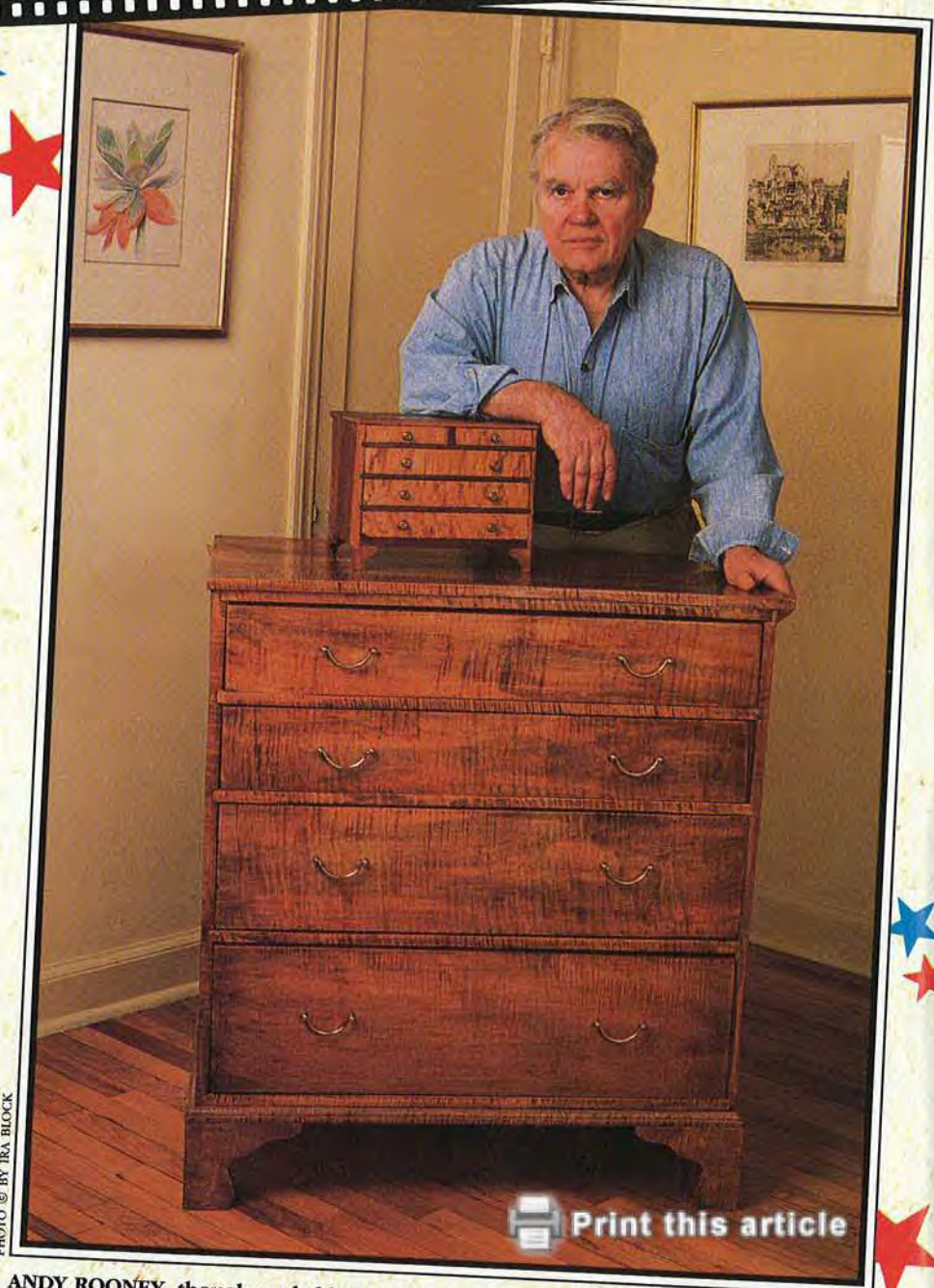


PHOTO © BY IRA BLOCK

ANDY ROONEY, though probably best known for his cryptic, humorous commentaries on the CBS news show, *60 Minutes*, also writes books and newspaper columns. He and his wife, Marge, divide their time between their Connecticut house and a country home in upstate New York. He's leaning over two projects he built.

CBS-TV doesn't own the walnut desk Andy Rooney relaxes behind for weekly commentaries. Rooney made that desk in his own shop.

Yes, Andy Rooney, who wonders about lots of things, has thought about why he loves woodworking. "I can't put my finger on *why* I enjoy woodworking so much. But when I have a project going, I just can't wait to get up to my shop on weekends. I wake up in the middle of the night and think about it," he admits. Yes, he's just like us.

SAWDUST IN THEIR VEINS

Rooney goes on to say, "It's interesting to me how closely my woodworking mirrors my character. The same strengths and weaknesses come out that I notice in my writing. I am not very careful. I don't do things as precisely or finish things as well as I should.

"I'm quite creative with the product, but the workmanship isn't as good as it should be. I often look at a piece three years later and think, 'I should have spent another five hours sanding.' I think a person's character is reflected in anything he does."

FISHING WITHOUT WATER

Hollywood stuntman Ted White succinctly describes what brings him back to his shop hour after hour: "It's fishing without the water." White frequently brainstorms ideas with his friend, actor John Vernon, who expresses his satisfaction in a different way. "Each cut is a separate thought, and each piece takes on a life of its own," Vernon says. "Consequently, if you make something, it's really yours."

Vernon became interested in woodworking when his son, Chris, brought home a desk set he had made in shop class. The gift intrigued Vernon enough to sign up for an adult education course. From that point, he was hooked on wood. Reel in another one!

A SATISFYING HOBBY

Edgar Struble, musical director for Kenny Rogers, learned woodworking as a 10-year-old 4-H Club member in Michigan, and his interest has never subsided.

"If I weren't a musician, I'd probably be a full-time woodworker," he remarks. "I made a little stamp holder for my desk, and I often find myself fingering it while I'm working. It gives me pleasure and helps me understand who I am."

Rooney came to woodworking almost by accident. "About 35 years ago, I was standing in the yard and saw a wonderful piece of wood. I brought it home and started sawing it up to make a box for the foot of the bed. My wife, Marge, was appalled. I made my first woodworking mistakes on that box and I've made a lot of them since."

FOOTBALLS TO FRAMES

Football hall-of-famer Bob Lilly got into woodworking through high school FFA classes and now finds fulfillment designing and building pieces not available elsewhere. The former Black & Decker spokesman spends his time making frames, easels, and modular storage units for his art gallery and new home in New Mexico.

Woodworking has become a meaningful way for Lilly to spend time with his children, too. But unlike the dad-teaches-son tradition, Bob's youngest son, Mark, takes lessons from a master woodworker, and the son then teaches dad.

IT DOESN'T GET ANY BETTER THAN THIS!

For some, the act of creation ends with a feeling of accomplishment somewhat akin to the end of the creation story when God sat back and said, "It is good."

"There is nothing like the moment I'm in my shop alone with a piece of wood and know it's done—it's finished," Rooney said. "After that, there's also some satisfaction in people marveling at it. I've made some very sophisticated stuff, like unusual little stepladders, and people are amazed that I can do them at all—they think it's out of character."

For White, the enjoyment extends far beyond the time of completion. "About 11 years ago I built a teak dining room set with eight chairs. It was one of my most difficult and time-consuming projects, but they look better now than they did the day I finished them," he said with pride.

Whenever Bill Garrett, editor-in-chief of *National Geographic* magazine, pours a cup of coffee at home in the morning, he can admire the cherry kitchen cabinets he made 15 years ago. "Our kitchen is very

Continued

BOB LILLY made gridiron history while playing defensive tackle for the Dallas Cowboys. Since retiring from football 12 years ago, he has devoted energy to his gallery of Southwestern photography and art in Mesilla, New Mexico. He lives with his wife, Ann, and the youngest of their four children, 13-year-old Mark, right.

PHOTO © BY DAVID GUIFFRE/ADOBE SHUTTER

large, and the planing and finishing took an enormous amount of time. It was worth it, because not a single drawer has warped. I still feel good whenever I look at them."

Because he views his avocation as rest and relaxation, Garrett ignores the last seven letters of woodworking. "When I get busy woodworking, it puts me in another world, away from what I do," explains Garrett. "It takes my mind off the things I don't want to think or talk about."

THAT DEVIL, TIME

No matter how much most of us enjoying woodworking, we struggle to find time to tie on the shop apron. Our six subjects share the same lament of most home woodworkers: Time isn't on their side.

In his characteristically sardonic manner, Rooney complains he has a problem with time—even on vacation. "I get up early, write for two hours, then go to my shop. Before long, somebody will want me to play tennis and I have to change into my tennis stuff. Then I need to take a shower and put my woodworking clothes back on, and pretty soon it's time to eat or drink something and I've got to change clothes again."

Garrett, because of his hectic travel schedule, has had to choose his projects carefully. Yet, he claims as his proudest woodworking achievement a 20×30′ inlaid herringbone hardwood floor that he toiled on for 100 hours.

"Every piece had to be custom cut and fitted. I had to allow for the inconsistencies of the floor as well as the expansion co-efficient so it wouldn't buckle," he explained. It was very challenging to tongue-and-groove each piece with a router, but it turned out beautifully."

THE FUN SIDE

When Lilly talks about woodworking, he peppers his language so frequently with "fun" that you immediately feel his lifelong affair with wood. "It's *fun* to work with my hands. It's *fun* to chew holes in wood. You can build a lot of things from plans—and that's *fun*."

But Lilly doesn't always follow a game plan. "I build more out of necessity," he explains. "I'm always lookin' for an odd space to fill with a project. I couldn't buy these pieces because I design them to complement the specific space. That's easier for me than trying to follow directions."

GENEROUS GIVERS

When he's not on the road with Kenny Rogers, there's a good chance you'll find Struble building a project for his family or friends. Struble glows about a rocking giraffe he built for a fellow musician's son. "It turned out as cute as a button. I also made a gorgeous butcher block out of maple, oak, and walnut for my wife. But, when we

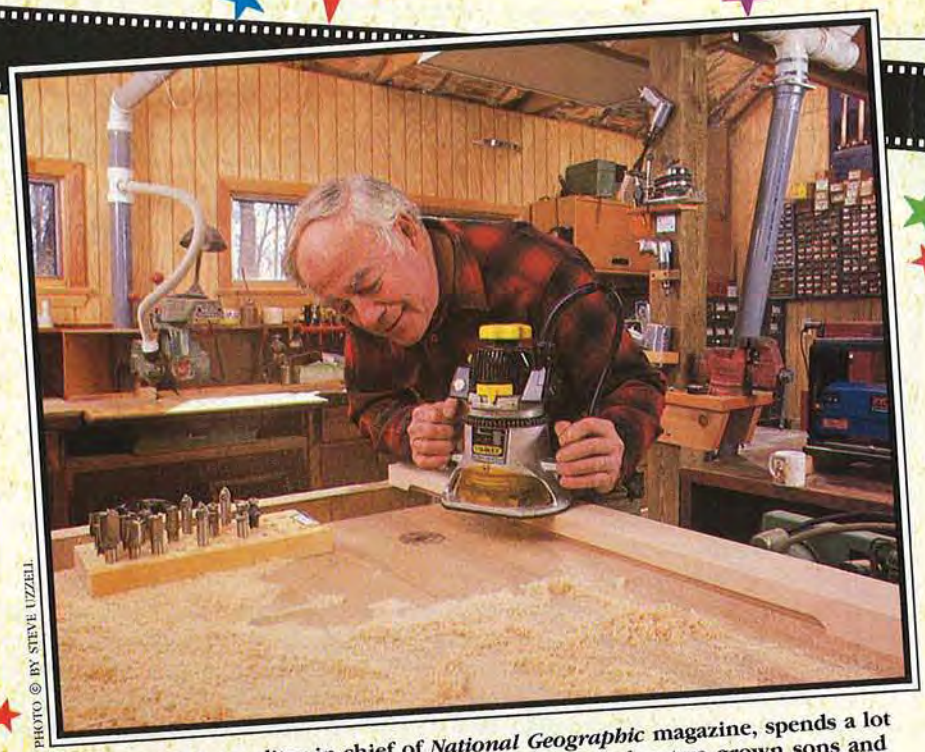


PHOTO © BY STEVE UZZELL

BILL GARRETT, as editor-in-chief of *National Geographic* magazine, spends a lot of time traveling, but enjoys working in his shop. He has two grown sons and lives with his wife, Lucy, on their 21-acre property near Washington. "Maybe I've become cynical because I travel so much, but one of the greatest joys of woodworking is not having to go to an airport to do it," Garrett admits.

Silverscreen buddies JOHN VERNON, left, and TED WHITE often talk woodworking when they get together. Vernon, born and raised in Canada, made a name as an actor in Canada's award-winning TV series, *Wojeck*. Since then, he has starred in more than 200 TV shows and movies, including *Animal House*. White, who doubled for John Wayne and Clark Gable, has appeared in more than 350 major films.

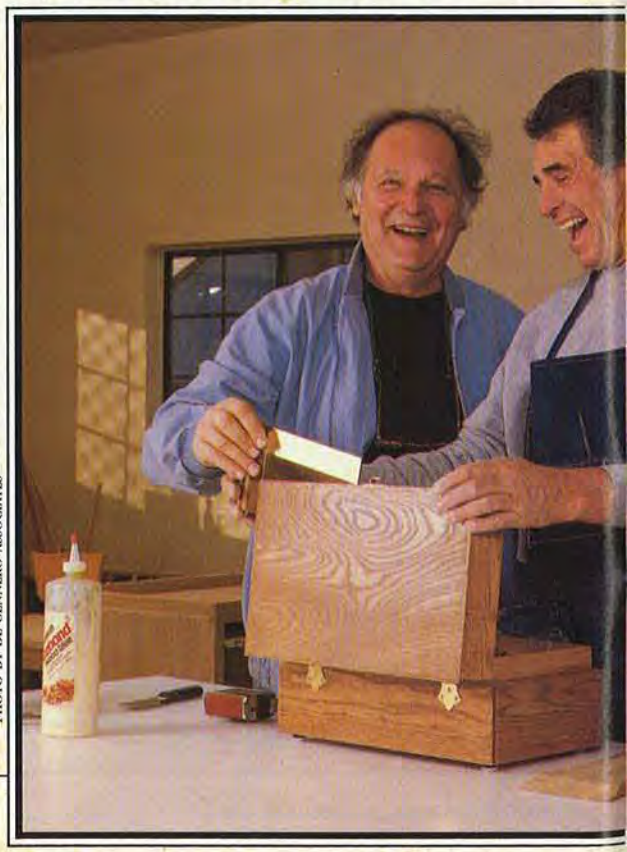


PHOTO BY DE GENNERO ASSOCIATES

EDGAR STRUBLE, musical director for Kenny Rogers, arranges scores for Kenny's country band, plays the keyboard, guitar and percussion, and occasionally conducts. He also is a composer, an agent for musical talent, and an antique car collector. When he's not on tour, he lives outside Nashville in Hendersonville, Tennessee.

PHOTO BY RUSS MILLER

got divorced, she wouldn't give it back to me for love nor money."

THE CHEST NO ONE WANTED

Vernon, Garrett, and White make furniture for their grown children, and Rooney says he gives furniture to his kids, "If they'll take it." He admits projects occasionally turn sour.

"My *most* unsuccessful project was a pyramid-shaped chest. It is five and a half feet high, and the 30-inch base tapers to 18 inches at the top. There are six drawers which, of course, are pyramid shaped, making each one different. I was quite proud to have finished it, but nobody wanted the chest. I keep it in my little writing room next to my shop."

SOUND ADVICE

Struble doesn't consider himself a woodworking expert, but he uses his "ancient" hand plane a lot. He believes beginners should become adept with basic hand tools before progressing to power tools.

"It's like learning to play scales before playing compositions on the piano. Just as you play better if you learn scales first, you'll do better work with bigger tools if you master the small ones first. I enjoy using power tools, but I feel that working with hand tools gives me more personal involvement."

WOOD AT THE DOORSTEP

Fortunately for Garrett, Rooney, and Struble, they all live in wooded areas. "It's really fun when you can go out and get your own wood and not have to buy it," said Struble who spends as much time as he can on his Lean Acres Ranch in Tennessee.

"There are a few species of native wood that I especially like to work with because they're not found in other places," he remarks. "One is hackberry, which most people call a junk tree because it grows in such abundance. Nobody uses it for anything—it just grows. After the branches lie on the ground for awhile, they become spalted. When I turn these pieces and get a cross-section of the grain, the figuring looks like someone took loops out of the grain and colored it in. A lot of woodworkers use spalted maple, but I don't know too many of us who use spalted hackberry!"

Garrett cuts wood on his property near Washington, D.C. "A few years ago, I cut down a walnut tree and rented a stump remover. I managed to clean out the root system so that I had six square feet of planks from wood that was below the ground. I've dried it for three years, and it's beautifully burled."

Hardwoods surround Rooney's country home in New York State, too. "Somebody is always cutting down a walnut tree, and I've got a lot of cherry and maple, too. My wife says I have more wood than I have time left in my life to make anything out of it."

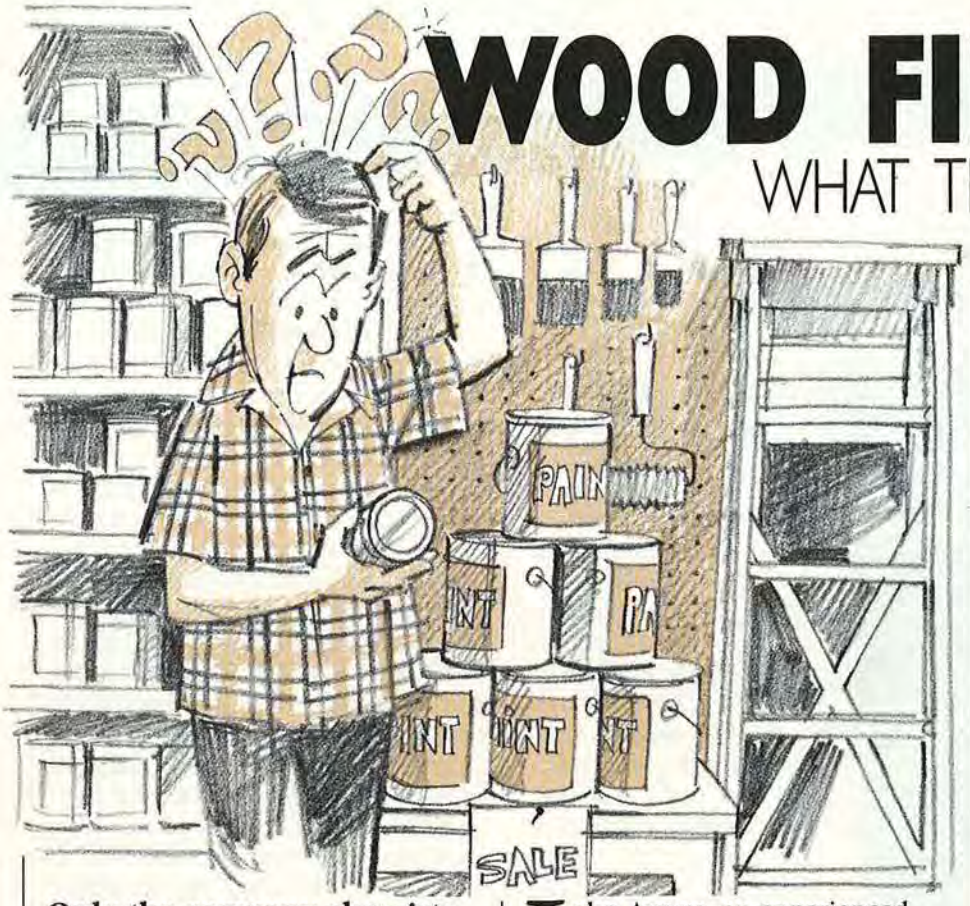
WOODWORKING: LIKE A GOOD MARRIAGE

Regardless of the degree of fame and fortune a person achieves, the passion for wood leaves an indelible mark on every woodworker's life. Vernon acknowledges that he can't look at furniture without thinking about how it was made.

More intangibly, woodworking offers a creative outlet, a release from stress, and a continuity to life. White equates it with marriage. "I've been married for 42 years and worked with wood for over half a century. The longer you're in it, the better it gets and, like my wife, wood is always there."

Written by Joan Lindroth *Designed by C. L. Gatzke*

WOOD FINISHING
WHAT THEY DON'T SAY CAN



Only the company chemists formulating the products you apply to your woodworking projects know exactly how they'll perform. *WOOD*® magazine reader John Aversa found this out the hard way—on a kitchenful of newly installed solid pine paneling. Here's his story, plus some tips from industry insiders that will help you avoid finishing failures.

John Aversa, an experienced, Palisades Park, New Jersey, woodworker, was so mad he saw red—well, bright pink anyway. He had spent many, many hours installing solid pine paneling in his kitchen, and had painstakingly worked out a blend of stains that produced the desired gray. Then, he stained the wood, waited a few days, and one evening brushed on a lacquer topcoat. It looked great. The next night, he applied more lacquer.

Daybreak brought surprise—and dismay. John's new paneling had turned a monstrous pink, with some vivid orange streaks! Following the advice of a paint store salesperson, John had mixed two different stain colors from one company and applied lacquer made by another manufacturer. Understandably upset, he complained to both manufacturers that their product labels hadn't warned him about the consequences of combining their products. To avoid John's catastrophe, read on.

IN FINISHING, YOU'RE AT RISK

Bruce Hammill, chief counsel for the National Paint and Coatings Association, notes that the cautions on labels address health and fire hazards, as required by federal, state, and city laws. You'll also find content weight and measure information listed on labels. *No* regulations, however, require label information about product performance. Therefore, manufacturers feel that when a consumer uses different brands of finishing products together, as did John Aversa, they are absolved from *any* responsibility when the combination fails.

"If manufacturers covered all the ramifications of how not to use a

TIPS FOR A TOP-NOTCH FINISH

The experts *WOOD* magazine talked to offered some tips to assure you a top-notch finishing job. Here's what they had to say:

Wipe down the surface. After a thorough fine-sanding, wipe down new wood with a clean rag dampened in mineral spirits before sealing or staining. James Brown, of Deft, Inc., cautions, though, against using commercially prepared tack rags, especially those claiming to be new or improved. "Too often, these contain chemicals and oils that contaminate the surface," he notes.

Never assume a clean surface. Even after sanding, wood that has had a previous finish may still have wax or silicone particles embedded in the pores that can lead to problems in the new finish. Remove these contaminants by scrubbing the wood surface with a solution of one tablespoon trisodium phosphate (TSP) and one tablespoon of household ammonia per gallon of water. After scrubbing the piece, rinse it thoroughly with clean, warm water. Sponge off remaining moisture, and allow the wood to completely dry before a final sanding. Then, just before finishing, thoroughly wipe the wood with a soft cloth dampened with mineral spirits.

Test the finish. Take a scrap of the wood you're going to finish and go

Print this article

PRODUCT LABELS
BE HAZARDOUS TO YOUR FINISHING SUCCESS

finishing product, they'd have a label large enough to cover a 55-gallon drum on every half-pint," says Kevin Ostby of Davis Paint Co. in North Kansas City, Missouri. "Basically, a label should describe how to use a product as it comes off the shelf, such as what to do if the pigment settles."

WHERE TO TURN FOR THE RIGHT INFORMATION

With so many finishing products on the market, all with so little practical information on their labels, how do you know which ones will be best for your job?

"As a rule, clerks in private-brand paint stores know their products better than those in discount stores and home centers, mainly because the employee turnover is so great in the latter," comments Joe Wolf of The Sherwin-Williams Company.

"Watch the mode of response when you ask for help," Joe advises. "If a clerk responds right away and recommends some products, he or she probably knows the right products and techniques. Conversely, if the salesperson hesitates and reaches for a can, that person probably doesn't know more than you do."

Jonathan Kemp, of H. Behlen & Bros., Inc., advises craftsmen to research: "Woodworkers read all the books and manuals on how to build the project and the best wood to buy. But, when it comes time to finish, they don't read."

Other reliable sources include local professional furniture refinishers and other woodworkers whose work has impressed you. You also can go directly to the manufacturer. Some companies maintain "hot lines" and toll-free telephone numbers to answer consumer questions. If you don't find a number listed on a label or product brochure, get it from the dealer, through the Yellow Pages, or from long-distance information. Then, call the company, ask for customer relations, and state your problem or what you want to do.

BEWARE THE DANGERS OF MIX-AND-MATCH

The label on Brand A stain recommends following it with Brand A varnish. Does the manufacturer just want you to buy its products? "Sure, that's part of it," explains John Moser of Wood Finishing Supply Company, "but each manufacturer has its own formulation for certain products. For instance," he points out, "there can be different proportions of hot solvents, such as toluene, that have a real low flash [evaporation] point and high volatility. Therefore, his lacquer may react quite differently from another brand under certain conditions."

Bruce Jackson, a wood-finishing specialist teaching at Pittsburg State University in Kansas, elaborates, "A product may contain from three to seven different solvents. To work properly, they must flash off in a progression. If they all flash too soon, the finish could look flaky; not fast enough, the material might trap solvents."

"Stick with the same product line," stresses Behlen's Kemp. "That should ensure that Step 1 and Step 2 will work together. If they don't, there's only *one* manufacturer to deal with."

Incidentally, after a six-month delay, John Aversa completed his kitchen project. The stain manufacturer suggested he resand the wood—and offered a can of stain. The lacquer manufacturer was, from John's point of view, more understanding. They sent him $400 to cover half of all the materials involved.

In light of his experience, John advises, "Double-check everything. And, definitely don't believe just anyone's recommendations."

through the steps, A to Z. Do the same with multi-coat finishing systems because the first coat may look fine, but problems could show up in following coats.

Don't shake finishes. Shaking can create tiny bubbles that often can't be brushed out. Instead, gently stir the contents with a lifting motion to mix agents settled to the bottom.

Stir stain every five minutes. Keeping pigments mixed gives you a more uniform wood color.

Brushing takes technique. It's best to apply varnish or polyurethane with a natural bristle brush. But, apply the finish by brushing in only one direction. Dip the bristles halfway into the varnish and touch the ends against the side of the can to drain excess. Don't drag the bristles across the can—this creates bubbles.

Know how to quit. When staining or applying a topcoat, don't quit in the middle of a large area because the eye will detect a change in color or finish. If you find a sag in a surface of varnish that has started to set up, don't rebrush. With satin-finish varnish, this causes glossy spots. Wait until it dries to apply a second coat.

Don't hurry the job. "Wait at least 24 hours" means just that. Adding a second coat too early results in a slow-drying, tacky topcoat.

Written by George Brandsberg
Illustration: Jim Stevenson

PORTABLE BELT

Since we last tested portable belt sanders about five years ago, improved designs and attachments have changed this market completely. Now, you can choose from more models—that do more things—than ever before. Here are the nitty-gritty differences.

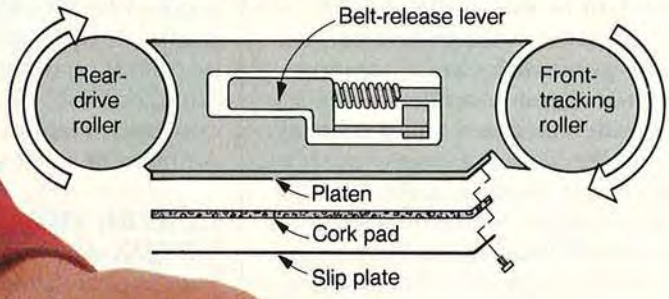
Like a sports car, the portable belt sander will take you quickly to your destination—usually a flat, smooth surface on stock glued up for width. You can even use it, when mounted in an accessory stand, as a benchtop sander to shape small parts. However, as handy as these tools can be, in our tests we came across several units that didn't measure up to our expectations. What gives? Stay tuned and we'll let you know how to avoid buying a "problem," and offer a few solutions in case you already own one.

LET'S CHECK UNDER THE HOOD OF A BELT SANDER

When you flip the switch of a portable belt sander to its "on" position, you fire up a universal motor that sets a pair of **rollers** into motion. These rollers, in turn, move a continuous abrasive belt over a flat surface referred to variously as a **base, pad,** or **shoe.**

Base designs differ, but on most sanders, a **cork pad** and **slip plate** fit between the **platen** and the **sanding belt** as shown *below.* The platen establishes a rigid, flat surface for the pad and plate to

THE "BUSINESS END" OF A BELT SANDER: ITS BASE

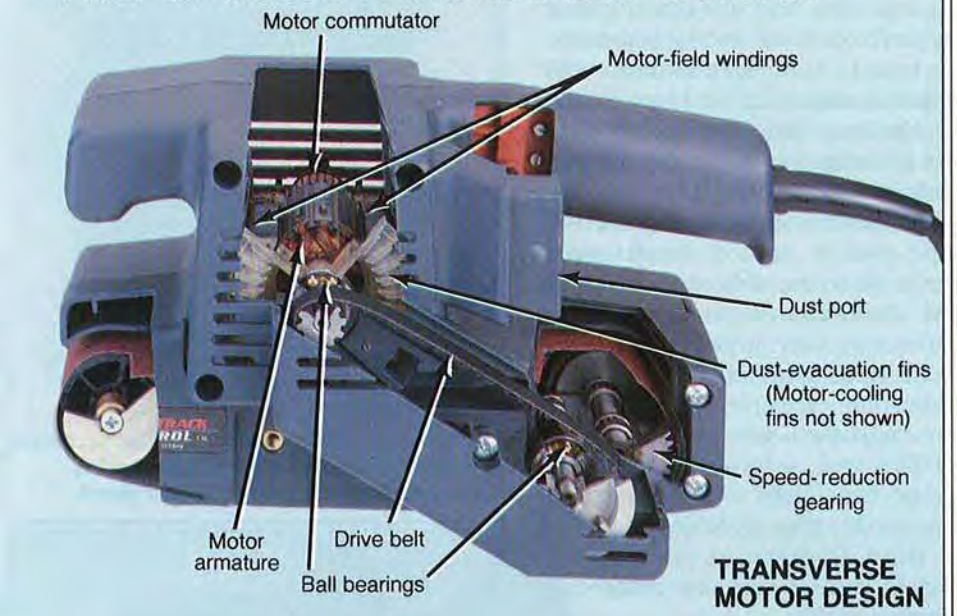


Print this article

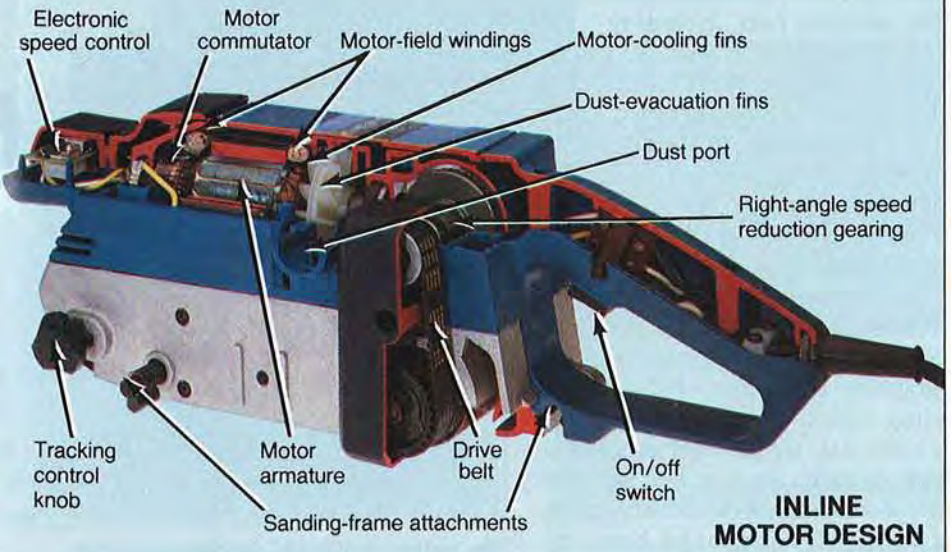
With its sanding frame attached the AEG HBSE 75S will help you sand surfaces with ease.

SANDERS A WHOLE LOT OF CHANGES GOIN' ON

TWO OPTIONS IN PORTABLE BELT SANDERS



TRANSVERSE MOTOR DESIGN



INLINE MOTOR DESIGN

sit on. Because a sanding belt would wear the platen over time, a replaceable slip plate or graphite pad contacts the back side of the belt on most sanders. The cork pad helps the slip plate conform to the shape of the platen.

Depending on which model you select, the sander will have one of two motor configurations: **transverse** or **inline.** How do they differ? Transverse machines, such as the Skil model 7313 shown *above left*, have motors mounted across the width of the machine, so the arbor turns in the same direction as the rollers.

Like the Ryobi model BE-321 shown *below left*, inline sanders have motors mounted parallel to the length of the machine. Because the arbor turns at 90° to the rollers, inline sanders have **right-angle speed reduction gearing** to transfer the motor's power to the **drive belt.** For information on how the motor configuration affects performance, see the section **Balance and Handling: a Weighty Matter** on page 57.

Both types of machines have a fan with two sets of **fins**: One set cools the motor and the other evacuates dust out through a **port** and into a bag. To regulate the speed of the motor, some machines come equipped with **electronic speed control** (see page 58 for more about this handy feature). At any speed, you need a means of keeping the belt centered on the rollers, so most machines have a **tracking control** knob.

Continued

AEG HBSE 75S

Ryobi BE-321

Freud LC75

BELT SANDERS

HOW MUCH BELT SANDER DO YOU NEED?

As you can see by looking at the chart on page 59, most manufacturers offer several sizes of sanders, most typically 3×18", 3×21", 3×24", and 4×24". Generally, machines with longer and wider belts will sand faster than smaller machines. But, for your home shop, a 3×21" or 3×24" sander will perform nearly every task in a reasonable amount of time.

When considering belt sizes it makes sense to pay just as much attention to the size of a machine's platen. Why? It's the size of the platen that determines how much sandpaper comes in contact with the work surface at any one time. For example, the Milwaukee model 5920 3×24" sander, with a 3×6½" platen, will remove stock much faster than the 3×24" Black & Decker model 7451 with a 3×4½" platen. See the buymanship chart on page 59 for the sanding area of 30 top-selling sanders.

THE LEVEL FACTS ABOUT FLAT BASES

No matter how much quality a manufacturer builds into a particular tool, a sander must have a flat base before you can do quality work with it. Most typically, a sander with a faulty base will cut deeper near its front and back with little stock removal near its middle. We first noticed this while testing 14 different models for this article. As we moved each running sander from side to side on a piece of polyester-coated particleboard, its sanding pattern appeared. The photo *above right* shows both an even and an uneven pattern. We found that the Bosch model 1273DVS, Hitachi SB10T, Makita 9900B, Milwaukee 5920, Ryobi BE-321, and Skil 7313 had either less-than-flat platens, or slip plates that bulged where they mounted to the platen.

Representatives of these companies said they had not heard about this problem from their customers. Our hunch: Many belt-sander owners never realize the problem exists, and chalk up less-than-desirable results to their own operating habits.

Interestingly enough, when we tested an identical Bosch unit, we found that it sanded much more evenly than the first one we had tried. This leads us to believe that results can vary greatly from one machine to another of the same model. For example, after hearing from us, Hitachi tested three model SB10T's and acknowledged that one of them had a bad base. To their credit, they promised to relay these findings to company officials at their Japanese manufacturing facility.

On the other hand, several sanders produced exceptionally flat, uniform cuts, including the AEG model HBSE 75S, Black & Decker 7451, Elu 4024, Freud LC75, Metabo 0775, Porter-Cable 351, and Wen 3600.

What can you do to protect yourself from the problem we uncovered? Before buying any sander, if possible remove its belt and hold a straightedge against the surface (slip plate or graphite pad) that contacts the sanding belt. If you detect a surface that's not flat, try another machine. If you already own a belt sander that's outlived its warranty, and you suspect it has a faulty base, try our quick-fix remedy on page 80.

The Black & Decker model 7451 sanded a flat, uniform test pattern into a sheet

The inline design of the Ryobi model BE-321 *(right)* makes that sander less

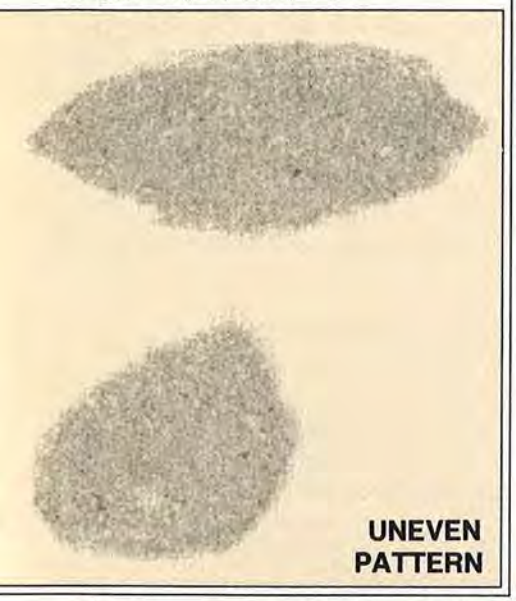
Skil 7313

Wen 3600

Metabo 0775

Makita 9900B

TEST REVEALED



of polyester-coated particleboard *(left)*; the Ryobi model BE-321 didn't *(right)*.

tipsy than the transverse design of the Milwaukee model 5920.

BALANCE AND HANDLING: A WEIGHTY MATTER

Just as a tightrope walker has to balance his weight directly over the highwire, good belt-sander balance depends on how much of the sander's weight sits directly over the sanding belt. As shown *below left,* the low center of gravity and weight placement of inline sanders make them less prone to side-to-side tipping than most transverse belt sanders.

Transverse sanders have certain advantages here, too. For example, you can control most of these machines on and above surfaces with one hand as shown *below.* Also, we judged the D-shaped handles on transverse units more comfortable than those on inline machines.

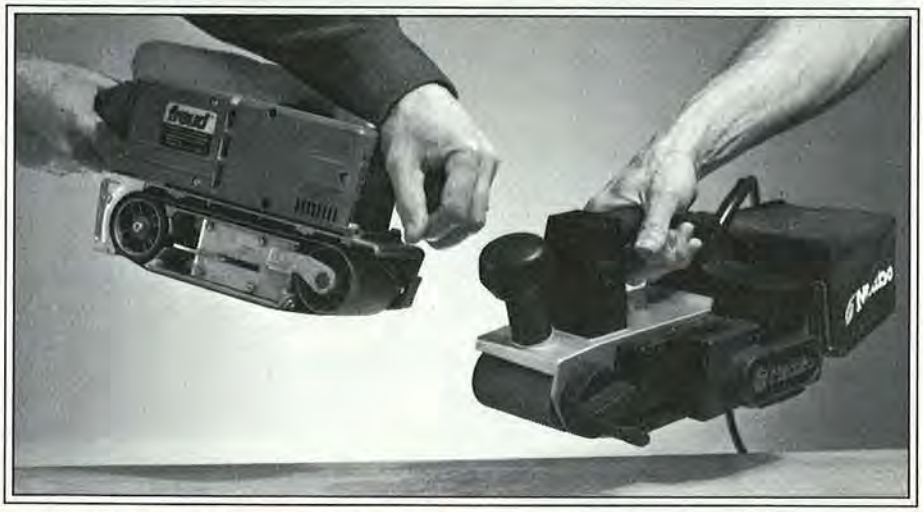
Among the inline sanders, we found the Ryobi BE-321 the easiest to control, due in part to the flat shape of its front handle. We felt less-in-control when operating sanders with round front knobs such as those found on the AEG, Freud, and Metabo units.

Woodworkers we've spoken to seem to be split on their preference for a light- or heavyweight sander. If you do almost all your work on horizontal surfaces such as tabletops, a heavy machine (over 10 pounds) can be a plus. How come? You don't have to exert force on a heavy sander (which could cause the machine to tip slightly) because its own weight helps the machine sand efficiently. However, if you'll be operating a belt sander on vertical surfaces, buy the lightest sander you can find. Tipping the scales at just over 6 pounds, the Elu models 4023 and 4024 pack plenty of quality in the lightest packages on the market.

DUST COLLECTION: YOU CAN'T LIVE WITHOUT IT

There's no way around it: Belt sanders kick out a lot of airborne dust that is none-too-healthy to breathe. That's why we recommend that you buy a sander with a dust collection bag.

Continued



You'll need two hands to control inline sanders such as the Freud LC75 *(left)*, but you can one-hand transverse machines such as the Metabo 0775 *(right)*.

Elu 4024

Milwaukee 5920

Sears 9R11792C

Black & Decker 7451

BELT SANDERS

When it comes to dust bags, the Elu and Metabo sanders, with bags that mount in the front and rear respectively, top our list. Both bags stay well out of your way. Among the machines with side-mounted bags, we think highly of the Porter-Cable sanders because you can position the bag on any side.

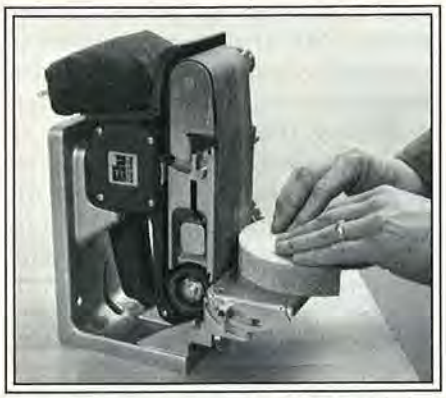
ATTACHMENTS: SANDING FRAMES HEAD THE LIST

It's a rare occasion when an accessory gets us so excited that we feel all our readers should own one, especially when only a handful of manufacturers include the accessory in their product line. For sanding frames, we make an exception.

A sanding frame works just like the sole of a hand plane in that it holds the sanding belt above the low spots in a surface, just as the plane suspends its blade above these "valleys." Supported like this, the belt sander concentrates its abrasive action on high spots, producing a surface as close to a single plane as possible. Also, the frame prevents the sander from rocking side-to-side or front-to-back, effectively eliminating gouging of the wood surface. The frame even helped iron out some of the problems that the nonflat bases gave us. Another benefit: As shown on page 54, the sanding frame prevents your sander from doing a "nosedive" over the edge of a surface.

Currently, six companies make an accessory sanding frame at a wide range of list prices: AEG, $112; Bosch, $89; Elu, $42; Hitachi, $153; Ryobi, $55; and Skil, $6.

As shown *below*, the frames have a variety of materials that contact the wood surface. The frames with plastic bottoms give the sander a solid feel as you glide it over the surface, and we found the moderately priced Elu and Ryobi frames well-matched for home shop use.



The Elu inversion stand doubles the machine's usefulness by enabling you to shape small objects.

Sanding frames come in a variety of designs. From left, Hitachi and Ryobi (both plastic-on-aluminum bases), Skil (all steel), and AEG (brush bottom).

Although sanding frames wowed us, we also came across a slew of other nifty accessories (see the chart *opposite* for a complete listing). Another favorite gadget: a device that holds the sander in a vertical or horizontal position on a benchtop. These accessories range from a pair of simple clamps to secure the sander on its back (Ryobi, Skil) to stands such as the Elu model shown *below left*.

SPEED CONTROL: A HANDY FEATURE

Fast belt sanders have one advantage over slower units: They remove stock at a quicker rate. But, in certain situations it helps to slow things down, so we're happy to see an increasing number of variable-speed sanders coming onto the market. You'll appreciate this feature when you want to avoid burning a surface, especially with fine-grain belts. Working on a veneer surface, you'll value the control you get with a slow speed.

We especially liked the convenient location of the variable-speed controls on the Bosch 1273DVS and Ryobi BE-321 that allowed us to change speeds while sanding. We had to stop sanding to change the speed of the AEG HBSE 75S.

NOISE: SOME MACHINES WERE A LITTLE ABRASIVE

By their nature, portable belt sanders make a lot of noise. Nevertheless, we comfortably used some, such as the Bosch 1273DVS, Elu 4024, Milwaukee 5920, and Porter-Cable 351, without ear protection. The Freud LC75 and AEG HBSE 75S were another matter. The Freud was loud and the AEG made a noise that wasn't terribly loud—just irritatingly high pitched.

Bosch 1273DVS

Hitachi SB10T

Porter-Cable 351

VITAL STATISTICS ON 30 TOP-SELLING SANDERS

MANUFACTURER	MODEL	BELT SIZE (width × length, inches)	SANDING AREA (width × length, inches)	SPEED (feet per minute) [1]	MOTOR POSITION [2]	AMPS	BEARINGS [3]	BELT CHANGE [4]	DUST COLLECTION (Y/N)	STANDARD ACCESSORIES [5]	AVAILABLE ACCESSORIES [5]	SANDS FLUSH (Y/N)	CORD LENGTH (feet)	AUTHORIZED SERVICE CENTERS [6]	COUNTRY OF ORIGIN [7]	NET WEIGHT (pounds)	SUGGESTED LIST PRICE [8]
AEG	HBSE 75S	3×21	3×5¼	660–1,250	I	7.8	B	L	Y	B, DB, HS	F, SF, VA	Y	12	180	WG	8.4	$249
Black & Decker	7447	3×21	3×4½	600	T	3.4	B, S	P	N	B		Y	6	215	USA	7	78
	7451	3x24	3x4½	1,200	T**	5.2	B, S	L	Y	B, DB		Y	6		USA	8.75	198
	2732	3x24	3x4¾	1,180–1,475	T	8.7	B, R	L	Y	B, DB		Y	8		J	9.7	290
Bosch	3270D	3x21	3x6⅜	1,080	I	5	B, R, S	L	Y	B, DB	F, VA	Y	8	184	S	7.9	219
	1273DVS	4×24	4×6	1,150–1550	T	10.5	B, R, S	L	Y	B, DB	SF, HS, VA	Y	8		USA	14.8	339
Elu	4023	3×21	3×5¼	1,100	T	5.2	B, R	L	Y	B, DB	F, HS, SF, VS	N	10		S	6.2	261
	4024	3×21	3×5¼	475–1,100	T	5.2	B, R	L	Y	B, DB	F, HS, SF, VS	N	10		S	6.2	289
Freud	LC75	3×21	3×5¼	1,475	I	9.6	B, R, S	L	Y	B, DB		Y	8	70	SP	10.75	228
	LC110	4×24	4×6¾	1,475	I	9.6	B, R, S	L	Y	B, DB		Y	8		SP	11.62	305
Hitachi	SB75	3×21	3×4¾	1,180; 1,475	T	8.7	B	L	Y	B, DB	HS	Y	8½	167	J	9.7	261
	SB10T	4×24	4×6½	1,150; 1,380	T	8.7	B	L	Y	B, DB	HS, SF	Y	8½		J	11.7	317
Makita	9900B	3×21	3×5	1,180	T	7.8	B, R	L	Y	B, DB		Y	17		J	10	254
	9924B*	3×24	3×6½	1,300	T	7.8	B, R	L	N*			Y	17	140	J	10.2	241
Metabo	0775	3×21	3×5¾	1,300	T**	5.5	B, R	K	Y	B, DB		Y	14	111	WG	10	283
Milwaukee	5920*	3×24	3×6½	1,400	T	10	B, S	L	N*	B		N	8	282	USA	13.5	315
	5931*	4×24	4×6½	1,400	T	10	B, S	L	N*	B		Y	8		USA	14.25	326
Porter-Cable	351*	3×21	3×5	1,300	T	7	B, R	L	N*	B		Y	7	138	USA	10.75	207
	361*	3×24	3×5⅜	1,550	T	10.5	B, R	L	N*	B		Y	7		USA	13.75	282
	363*	4×24	3×5⅜	1,550	T	10.5	B, R	L	N*	B		Y	7		USA	12	302
Ryobi	B-7075	3×21	3×5¼	1,180	T	8.4	B, S	L	Y	DB	CC	Y	8	153	J/USA	9.6	219
	BE-321	3×21	3×5¼	775–1,148	I	5.4	B, S	L	Y	B, DB	F, HS, SF	Y	8		J/USA	7.9	244
	B-7100	3×24	3×6¾	1,500	T	8.4	B, S	L	Y	DB		Y	8		J/USA	9.7	281
Sears	9R11715	3×21	3×4¾	1,300	T	7.5	B, R	L	Y	DB	CC, F, VS	Y	6	900	USA	12.7	78
	9R11792C	4×21	4×4¾	1,300	T	7.5	B	L	Y	DB		Y	10		USA	18	98
Skil	7102	2½×16	2½×4½	600	T	2.8	B, R	L	N	B	VA	Y	8	141	USA	5.75	65
	7313	3×18	3×5	700	T	4.5	B, R	L	Y	B, DB	F, HS, SF	Y	8		USA	6.75	70
	7621	3×21	3×5⅜	775–1,150	I	6	B, R	L	Y	B, DB	HS	Y	8		J	8	269
	7724	3×24	3×7	1500	T	9	B, R	L	Y	B, DB		N	8		J	9¾	269
Wen	3600	3×18	3×3	1,000	T	4	S	P	Y#	B	VA	N	6	1	USA	6.5	79

* Same model available with dust evacuation and dust bag

** Motor mounted between rollers

Only with vacuum hose attached

1. Machines with listed speed ranges indicate variable speed capability
2. (I) Inline; (T) Transverse
3. (B) Ball; (R) Roller; (S) Sleeve
4. (K) Knob; (L) Lever; (P) Push on front roller
5. (B) Sanding belt; (CC) Carrying case; (DB) Dust bag; (F) Fence; (HS) Horizontal support; (SF) Sanding frame; (VA) Vacuum attachment; (VS) Vertical support
6. Notes about authorized service centers:
   - Elu tools serviced at Black & Decker centers.
   - If a Sears service center cannot repair a tool, the tool will be sent to one of three specialty repair centers.
   - Wen tools must be mailed to one service center in Chicago.
7. Ryobi portable belt sanders may be manufactured in the U.S. or Japan at the discretion of the company. (J) Japan; (S) Switzerland; (SP) Spain; (WG) West Germany
8. Tools often discounted 10–50% below list price.

Written by Bill Krier Technical Consultant: George Granseth Photographs: Perry Struse Illustrations: Mike Henry

THEY DON'T BUILD 'EM LIKE THIS ANYMORE

DOLL CRADLE

Thank goodness for a photographer's attentive eye! William Hopkins, Sr., who often shoots photos for *WOOD*® magazine, recently spotted an antique doll cradle while on assignment for another magazine. And fortunately for us, he decided to jot down the dimensions and build one for a gift. When we saw Bill's handiwork, we fell for the project immediately. We think you will, too.

EDGE-JOIN STOCK TO FORM THE WIDE PANELS

Note: The cradle sides (A), back (B), front (C), base (D), and hood parts (E, F) require wide panels. When you edge-join boards to form these panels, we recommend using 4" or narrower boards to reduce the chance of warpage.

1 Glue and clamp enough ¾" cherry to form the following: two panels measuring 12×27⅝" for the cradle sides (A). A 9⅜×12½" panel for the cradle back (B), an 8×12" panel for the cradle front (C), a 12×25" panel for the cradle base (D), and two 6¼×12" panels for the hood parts (E, F). After the glue dries, remove the clamps and sand each panel.

2 Resaw the two 6¼×12" panels for the hood parts (E, F) so you end up with four ¼"-thick panels. Sand each resawed panel smooth.

3 Cut the hood support blank (G) to 2½×13½". And cut two rocker blanks (H) to 3×18".

THE COMPOUND ANGLES: EASIER THAN YOU THINK

1 Make a mark on the inside face of the front, back, and side panels as well as the hood support blank.

2 As shown on Step 1 of the three-step drawing *below*, tilt your tablesaw blade 10° right of vertical. Next, *with the marked inside face down,* cut a 10° bevel along the *bottom edge* of the sides (A), back (B), and front (C).

3 Using the dimensions on the Cradle Side, Back, Front, and Hood Support drawings, mark the angled cutlines on the *inside* face of these pieces. When making the cuts shown on Steps 2 and 3, save the cutoff end pieces from parts B and C; you'll use them later as clamp blocks when assembling the cradle.

4 Tilt your tablesaw blade 3° right of vertical, and angle your miter gauge 10° from square where shown on Step 2. *With the inside face up,* cut the compound angle along the right-hand side of pieces A, B, C, and G where marked.

5 With the inside face of each piece *up*, follow Step 3 to cut the compound angle along the opposite end of each piece.

NOW, MARK AND CUT ALL THE PIECES TO SHAPE

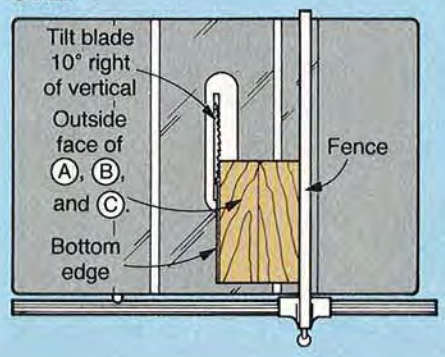
1 Using the dimensions on the Cradle Side Drawing and accompanying Grid Pattern, mark the layout for the top edge of one side panel. To enlarge the grid pattern for the curved portion of the sides, cut a piece of heavy paper to 3×6", and draw a 1" grid on the paper. Using the Grid Pattern as reference, lay out the curved outline on the marked grid. To do this, mark the points where the pattern outline crosses each grid line. Finally, draw lines to connect the points. Cut the paper pattern to shape, and use it as a template to mark the curved portion on each cradle side.

2 Bandsaw the top edge of the cradle side panel to shape. Trace its outline onto the other cradle side, and cut its top edge to shape.

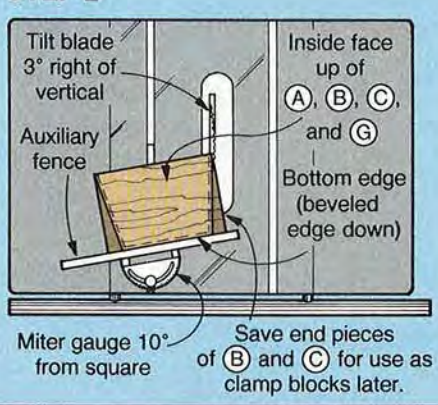
3 Repeat the process in Step 1 *above* to mark the contoured-top shape of the cradle back (B), front (C), hood support (G), and rockers (H). Cut the pieces to shape and sand smooth.

Continued

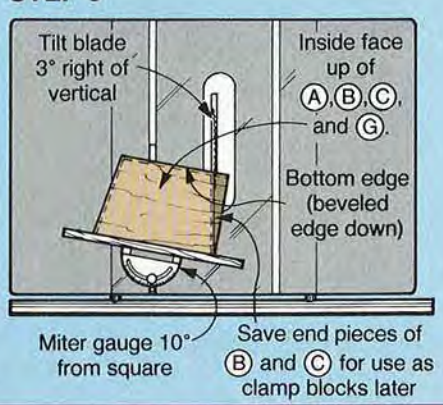
STEP 1



STEP 2


Tilt blade 3° right of vertical
Auxiliary fence
Inside face up of (A), (B), (C), and (G)
Bottom edge (beveled edge down)
Miter gauge 10° from square
Save end pieces of (B) and (C) for use as clamp blocks later.

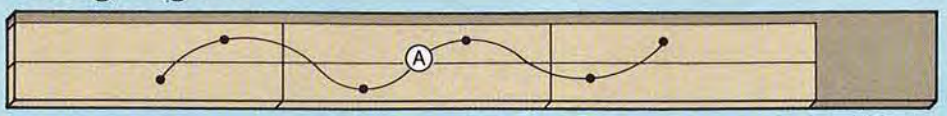
STEP 3


Tilt blade 3° right of vertical
Inside face up of (A), (B), (C), and (G).
Bottom edge (beveled edge down)
Miter gauge 10° from square
Save end pieces of (B) and (C) for use as clamp blocks later

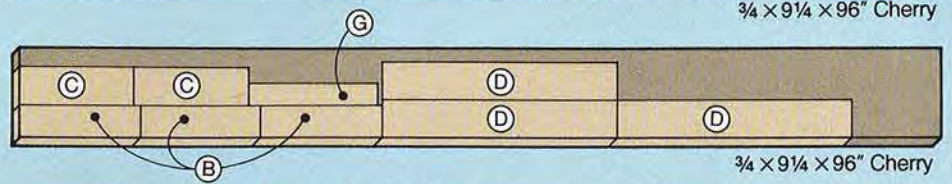
Print this article

DOLL CRADLE

Cutting Diagram



¾ × 9¼ × 96" Cherry



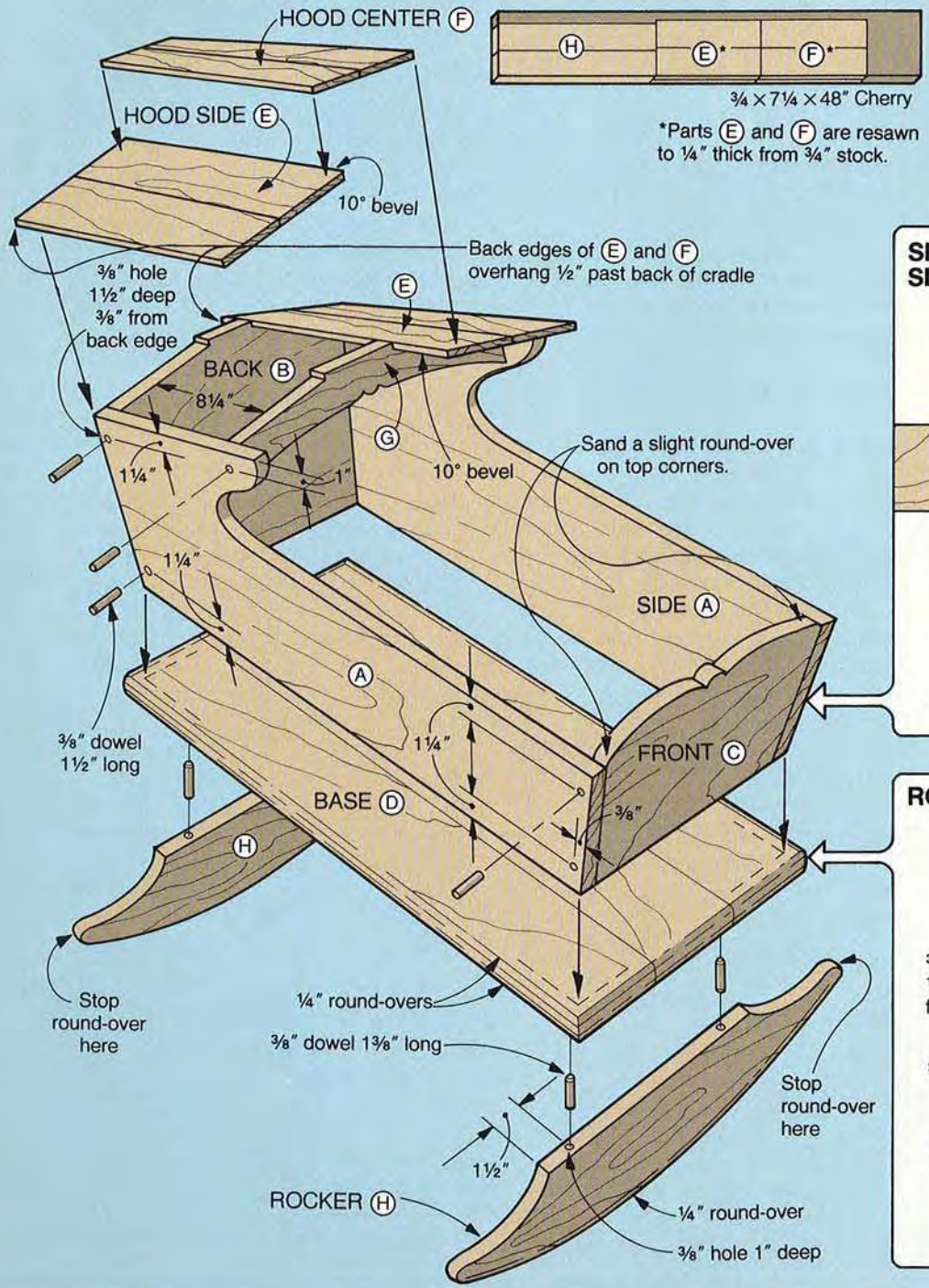
¾ × 9¼ × 96" Cherry

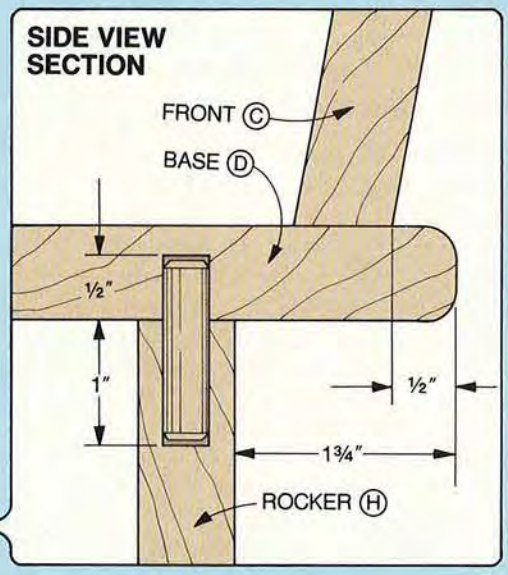
¾ × 7¼ × 48" Cherry

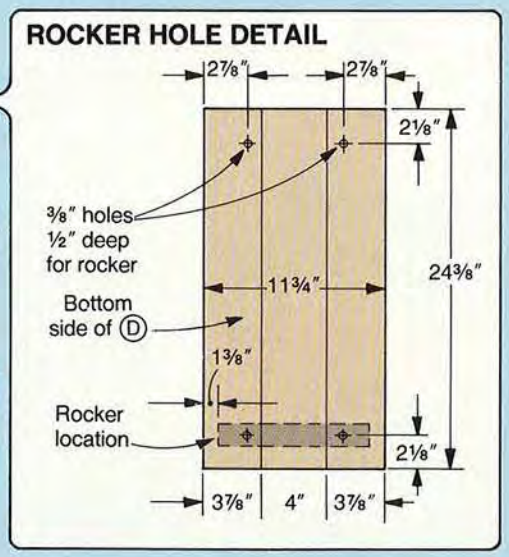
*Parts (E) and (F) are resawn to ¼" thick from ¾" stock.

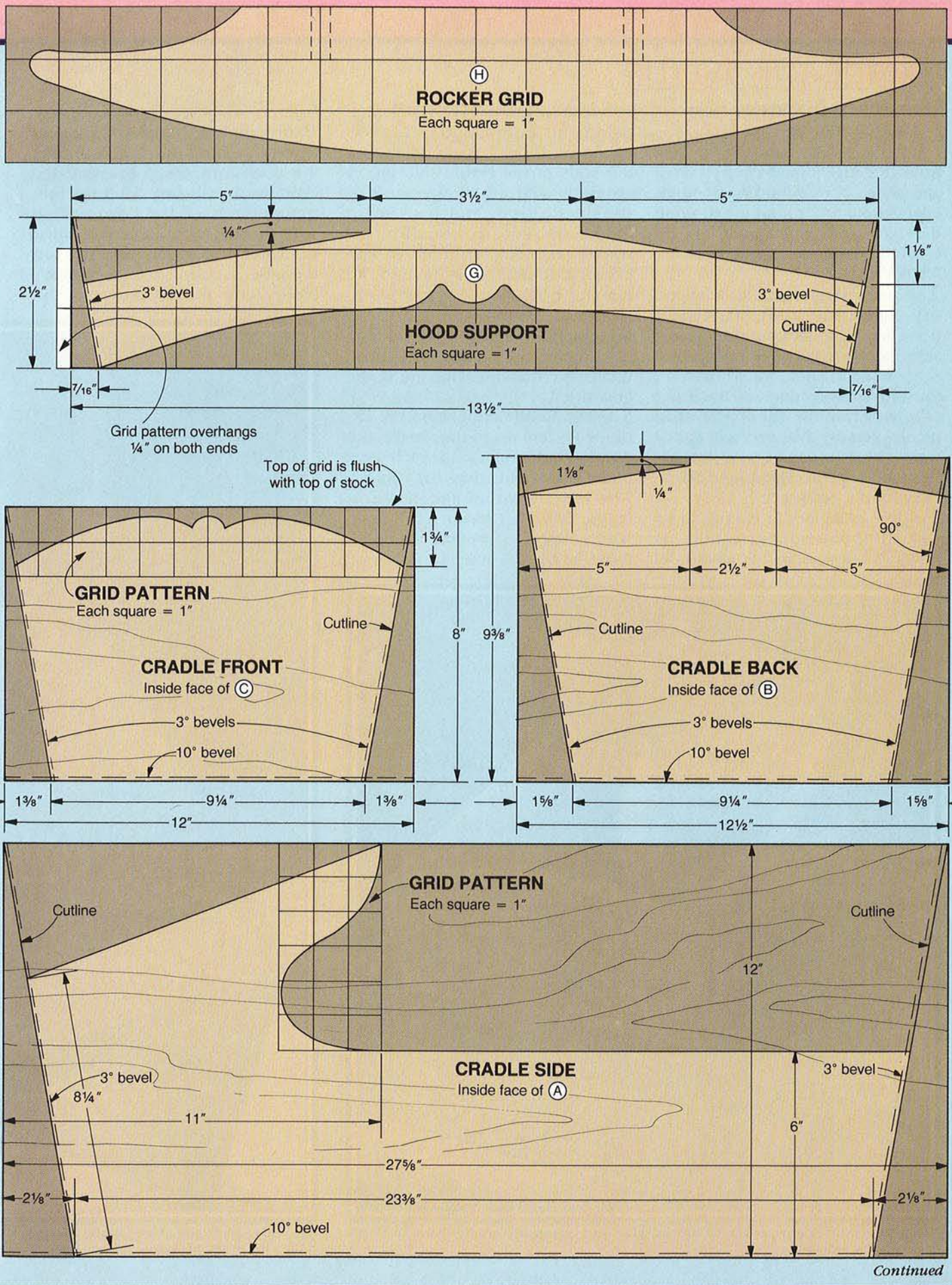
Bill of Materials						
Part		Initial Size				
		T	W	L		
A	sides	¾"	12"	27⅝"	C	2
B	back	¾"	9⅜"	12½"	C	1
C	front	¾"	8"	12"	C	1
D	base	¾"	12"	25"	C	1
E	hood sides	¼"	6½"	12"	C	2
F	hood center	¼"	6½"	12"	C	1
G	hood support	¾"	2½"	13½"	C	1
H	rockers	¾"	3"	18"	C	2

Material key: C-cherry
Supplies: masking tape, ⅜" birch dowel stock, stain, finish, 0000 steel wool.








Ⓗ
ROCKER GRID
Each square = 1″
5″
3½″
5″
¼″
1⅛″
2½″
Ⓖ
3° bevel
3° bevel
HOOD SUPPORT
Each square = 1″
Cutline
7/16″
7/16″
13½″
Grid pattern overhangs
¼″ on both ends
Top of grid is flush
with top of stock
1¾″
GRID PATTERN
Each square = 1″
Cutline
8″
9⅜″
CRADLE FRONT
Inside face of Ⓒ
3° bevels
10° bevel
1⅜″
9¼″
1⅜″
12″
1⅛″
¼″
90°
5″
2½″
5″
Cutline
CRADLE BACK
Inside face of Ⓑ
3° bevels
10° bevel
1⅝″
9¼″
1⅝″
12½″
GRID PATTERN
Each square = 1″
Cutline
Cutline
12″
CRADLE SIDE
Inside face of Ⓐ
3° bevel
3° bevel
8¼″
11″
6″
27⅝″
2⅛″
23⅜″
2⅛″
10° bevel

Continued

DOLL CRADLE

THE CRADLE BEGINS TO TAKE SHAPE

1 Cut the cradle base (D) to size from the edge-joined cherry panel, and rout ¼" round-overs along all edges. Rout ¼" round-overs along the *bottom* edge of each rocker (see the Exploded-View Drawing for reference).

2 Using masking tape and a helper, dry-clamp the front, back, and hood support between the cradle sides to check the fit; trim if necessary. Mark a slight round-over on the top corner edges of the front (C) where they meet the side pieces. Remove the tape, and cut or sand the round-overs to shape. (Again, see the Exploded-View Drawing for reference.)

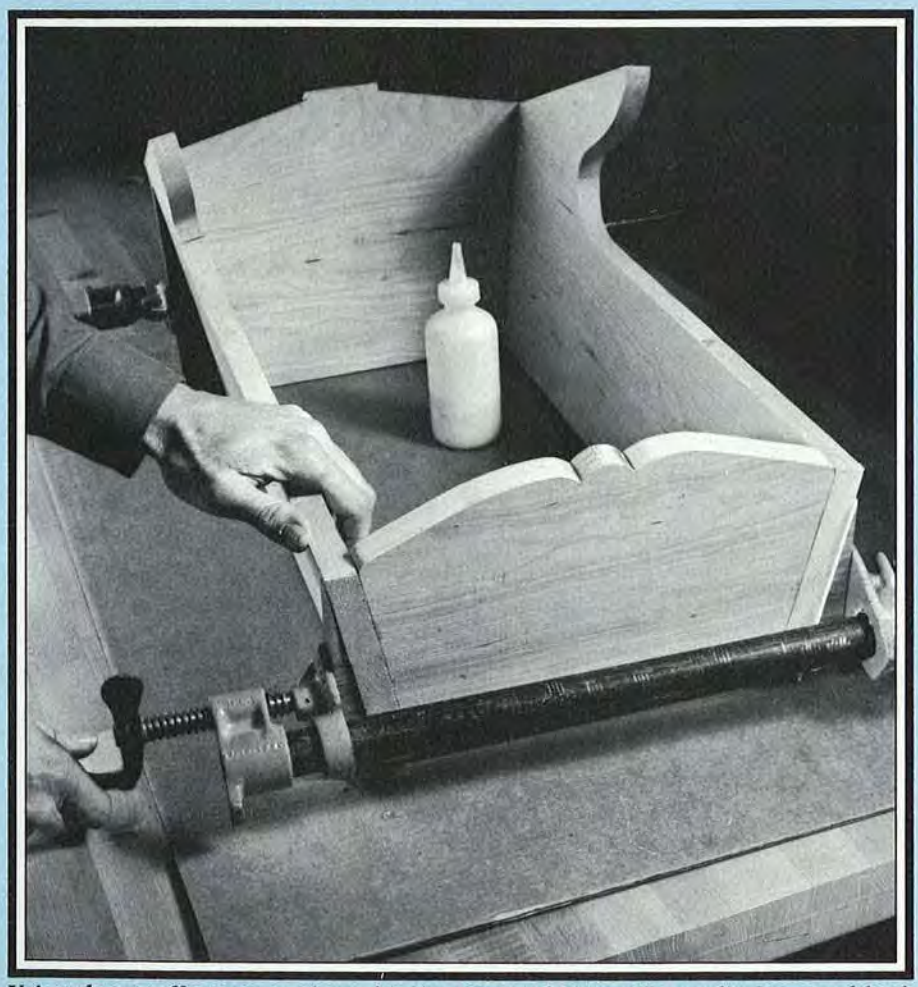
3 Apply glue to the mating areas (set the hood support aside for now). As shown in the photo *below*, clamp the assembly together, using the cutoff end pieces as clamping blocks. Make sure that the ends of the cradle side pieces are flush with the outside faces of the cradle front and back. Also check the cradle assembly for square. Immediately remove any excess glue with a damp cloth. After the glue dries, remove the clamps and sand smooth.

4 Now, glue the cherry hood support in place (we held ours in position with masking tape until the glue dried).

5 Using the dimensions on the Exploded-View Drawing, mark the dowel centerpoints on each side piece (each side has five holes). Now, as shown in the photo at *right*, drill ⅜" holes 1½" deep where marked (we used a brad-point bit).

6 From ⅜" birch dowel stock, cut 10 dowels 1⁹⁄₁₆" long. Sand a chamfer on one end of each dowel. Glue the dowels in place, inserting the chamfered ends first. Sand the protruding ends of the dowels flush with the surface of the cradle sides.

7 Center the cradle assembly on the base. Lightly trace the cradle's outline onto the top surface of the



Using the cutoff scraps as clamp blocks, glue and clamp the cradle front and back between the side pieces.

Carefully mark the dowel hole centerpoints on each side panel. Then, using a

base. To prevent the joints from cracking later due to expansion and contraction, apply glue only to the bottom of the side pieces—do not glue the bottom edges of the front and back to the base. Using clamp blocks, clamp the assembly onto the base where marked. Immediately wipe off any excess glue with a damp cloth.

portable electric drill and a brad point bit, drill ⅜" holes 1½" deep.

"As we do with all our projects, we built this cradle in our shop to check the procedure, dimensions, and angles. In fact, we ended up building several cradles to ensure accuracy and provide you with the best instructions possible." *Marlen Kemmet* ***How-To Editor***

ATTACH THE ROCKERS

1 Using the dimensions on the Rocker Hole Detail accompanying the Exploded-View Drawing, mark and drill four ⅜" holes ½" deep in the bottom face of the base.

2 Insert a pair of ⅜" dowel centers in the holes in one end of the base. Hold a rocker in position on the bottom side of the base (see the Rocker Hole Detail for location). Squeeze the rocker against the base to transfer the hole centerpoints to the rocker. Repeat for the second rocker. Drill a pair of ⅜" holes 1" deep in each rocker where indented. (We used a doweling jig when drilling the dowel holes.)

3 Cut four ⅜" dowels to 1⅜" in length. Sand a chamfer on both ends of each dowel.

4 Glue, dowel, and clamp the rockers to the bottom of the base.

THE HOOD TOPS OFF THE CRADLE ASSEMBLY

1 Using the dimensions on the Hood Center Drawing, mark the outline and cut the hood center (F) to shape.

2 Bevel-rip the inside edge of each of the hood sides at 10°. (See Step 1 on the three-step drawing on page 61 for help with this if necessary.)

3 Glue and clamp the hood sides (E) to the top edge of the side pieces. To allow the hood side pieces to expand and contract without splitting, *do not* glue them to the back or the hood support. The back edge of the hood sides should overhang the back edge of the cradle by ½". (We used masking tape to hold the pieces in place until the glue dried.)

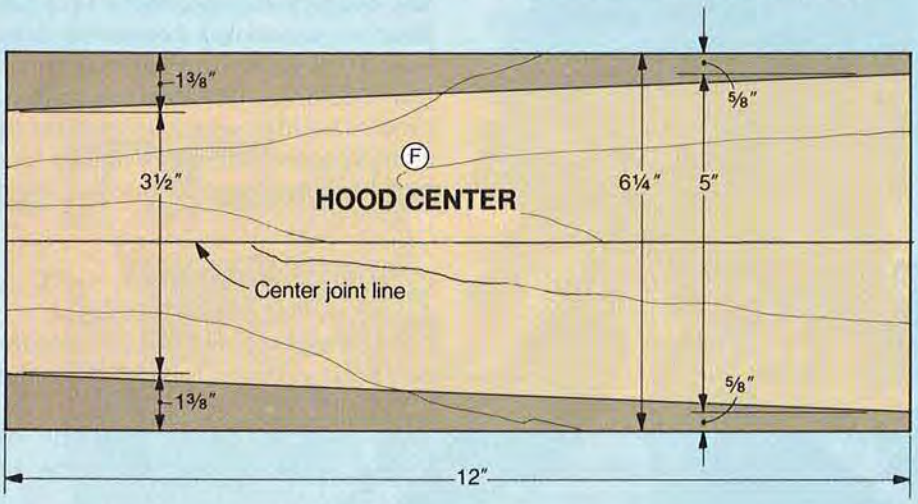
4 Glue and clamp the hood center in place; it also over hangs the back edge by ½".

ADD THE FINISH AND THE DOLLY

1 Finish-sand the entire cradle. Stain as desired. (We used a cherry stain. Since cherry darkens with age, we avoided using dark stains.)

2 Apply the finish (we used polyurethane sanding sealer and three coats of semigloss polyurethane). Wrap a ribbon around the cradle and present it to a lucky child.

Produced by Marlen Kemmet
Photographs: Hopkins Associates; Bob Calmer
Illustrations: Kim Downing; Bill Zaun



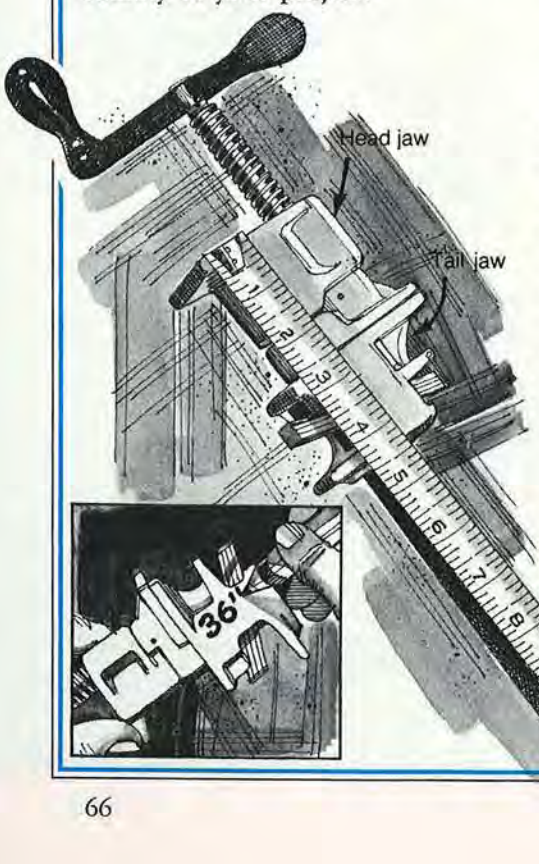
Print this article

BLOW OFF THE DUST AND PUT

At $10–$20 each, the pipe clamps in your shop represent a sizable investment. So, it makes good sense to get maximum use from these tools. As you're about to see, they can do a lot more than just join large workpieces.

1 BUY THE PIPE LENGTH YOU REALLY NEED

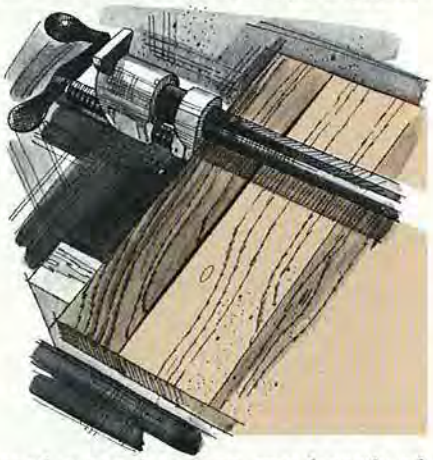
Before you spend up to $1 per foot for threaded black pipe—the best type for this purpose—allow for the length of pipe inside the head and tail jaws. As shown *below*, the two jaws on our clamps eat up 4½" of pipe. You'll have to measure you're own clamps, then add that amount to your desired clamping capacity before ordering pipe from your friendly plumber or hardware store. Now, you'll have pipe clamps long enough for the job when it comes time for the assembly of your project.



After purchasing your pipe clamps, take a few seconds to mark the capacity of each clamp on one of its jaws. Use a permanent, felt-tipped pen as shown in the inset illustration *below left*. With that done, you shouldn't make the mistake of grabbing a pipe clamp that's too small for your project.

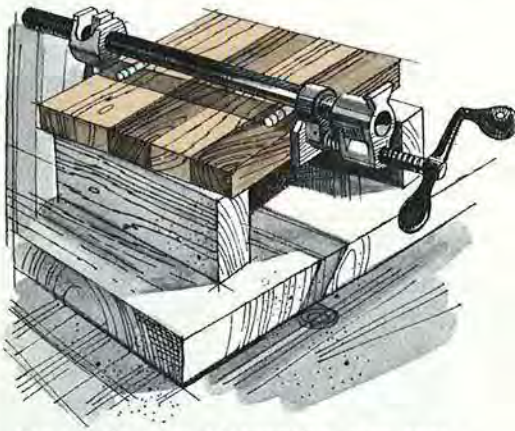
2 YOU'RE ALL WET IF YOU DON'T DRY-CLAMP

Before you apply glue, dry-clamp your project to check the fit of the joints. Remachine and adjust the part(s) as necessary. As shown in the illustration *below*, we discovered a gap between two boards after dry-clamping this cutting board. Excessive clamping pressure would have brought the joint together, but would have resulted in a weak joint, so we took a couple of minutes to recut the mating edges. As Jim Boelling, *WOOD*® magazine's project builder says, "No amount of clamping pressure has ever made a bad joint into a good one."



3 FOR STARTERS, GET A GOOD LINE OF PULL

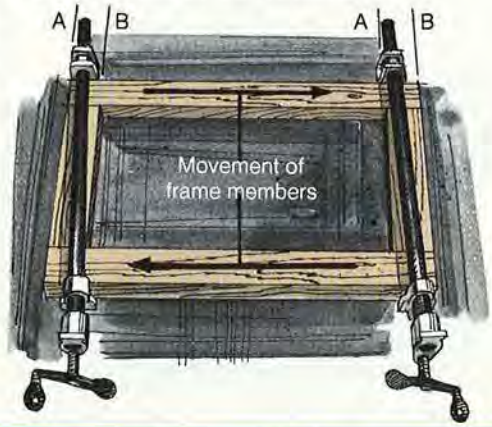
A pipe clamp places pressure or "pull" directly in line with the screw on the head jaw. So, be sure to center this line of pull on the thickness of the workpiece. Otherwise, you run the likely risk of cupping or bowing the glue-up.



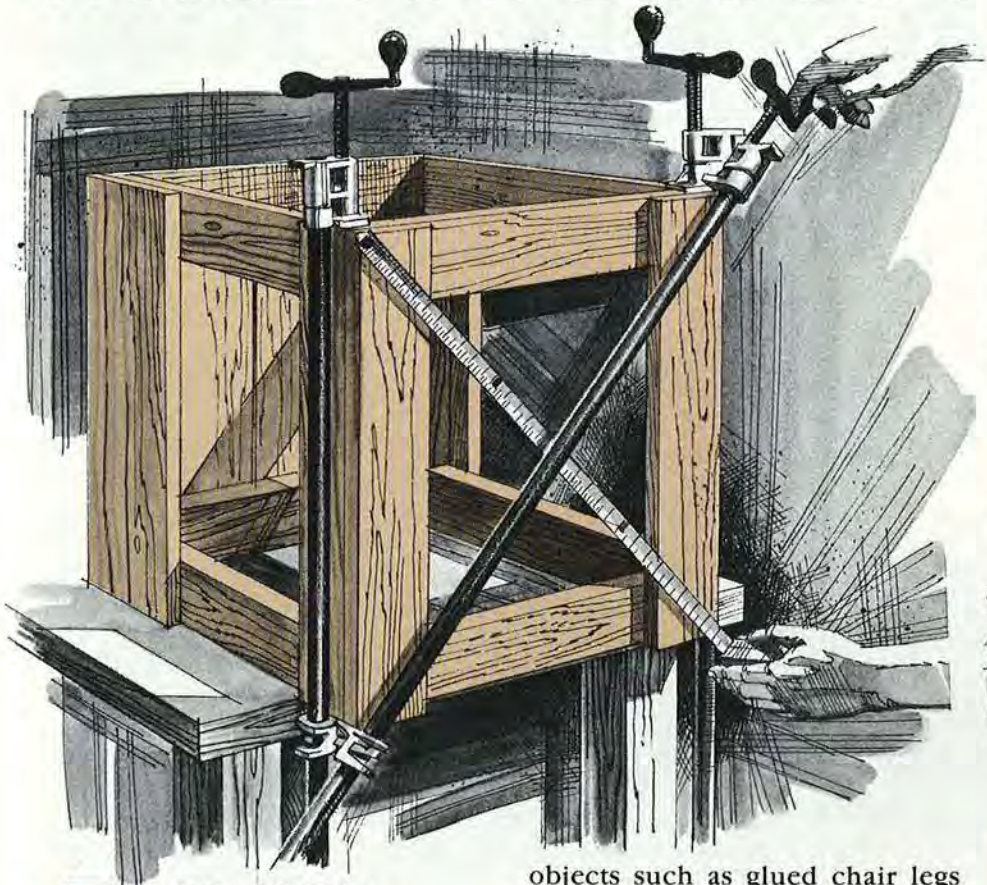
To avoid this problem, use this little trick when edge-gluing boards for width. As shown *above*, suspend the workpieces on two 2×4s, then place a piece of dowel under both ends of each clamp to center the screw in line with the edge of the workpieces.

4 A CURE FOR SMALL SQUARING PROBLEMS

It's not unusual to pull a frame together, only to find out that it's slightly out of square. Sometimes, you can correct this by just slanting the direction of your pipe clamps as shown *below*, making what may seem like a bad line of pull actually work *for* you. Remember, this procedure works only for minor corrections—don't try to place the clamp jaws beyond the A and B points in the illustration.



THOSE PIPE CLAMPS TO WORK!



5 BE SQUARE ON A BIG SCALE, TOO

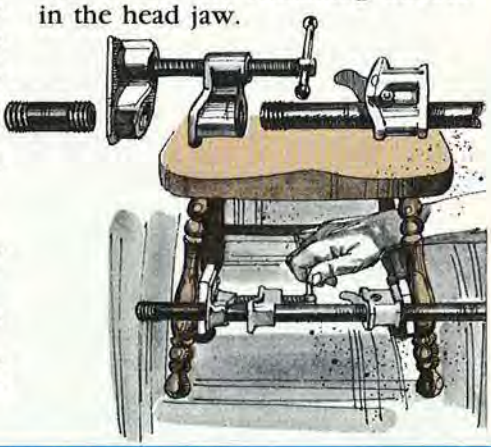
You can bet that any cabinet frame or box with equal diagonal lengths between its corners has 90° corners. And, you can apply this idea to making your projects square during clamp-up. Here's how:

With the frame held together with two clamps, measure the two diagonals. If one measures 26", for example, and the other measures 27", attach a bar clamp across the longer diagonal and hold a tape measure across the short diagonal as shown *above.* Now, slowly tighten the bar clamp on the 27" diagonal until the other diagonal measures 26½". You're square!

6 MAKE A CLAMP THAT PULLS APART OBJECTS

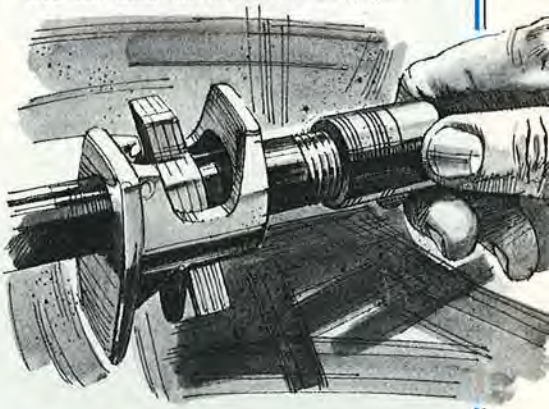
Recently, *WOOD* magazine reader Dewey Fox of Milford, Ind., showed us a slick way to spread objects such as glued chair legs apart with ½" pipe clamps. While less-rigid than the more-popular ¾" pipe clamps, the ½" models have sliding bar handles that slip past the handle, allowing them to work for this application.

As shown *below,* you'll need to reverse the head and tail jaws, then thread the head jaw halfway onto the pipe. Now, cut a 4" piece of pipe (threaded on one end) and turn it into the remaining threads in the head jaw.



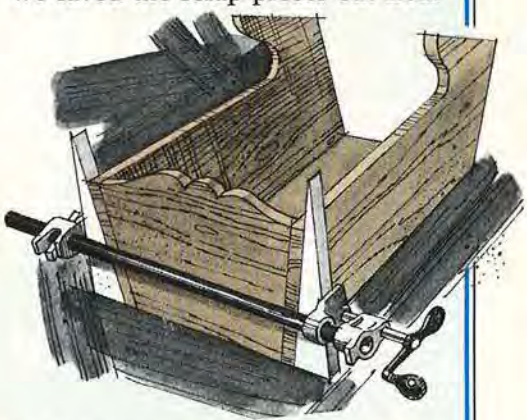
7 COUPLINGS DOUBLE YOUR CLAMP LENGTHS

For less than $1, you can buy a coupling and attach it to the tail end of your pipe as shown *below.* The coupling will protect the threads and keep the tail jaw from sliding off. And, when you need an extra-long clamp, you can remove the tail jaw, fasten two pipes together, and reattach the tail jaw to the far end of the second pipe.



8 CLAMP ODD ANGLES WITH THIS METHOD

You can clamp two nonparallel surfaces by using wedge-shaped blocks that compensate for the odd angles. As shown *below,* we saved the scrap pieces cut from



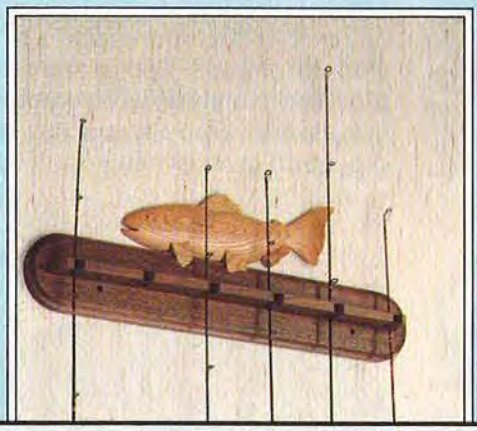
the end panel of the cradle project on page 65, attached those scrap pieces with double-faced tape, and put our clamp into position. This procedure also works with irregular bandsawed pieces.

Illustrations: Jim Stevenson

DON'T LET THIS ONE GET AWAY

Print this article

FISHERMAN'S ROD



We can report excellent fishing conditions for our anglin' friends: The fishermen are biting on this rod rack idea. In addition to looking like a million bucks, the rack untangles the rod-and-reel mess that bobs up at many homes between outings. And that's no fish story.

Note: For your convenience, we have printed a FREE full-sized pattern of the fish. You'll find ordering instructions at the end of the article. If you can't wait to get started, enlarge the pattern shown here.

START WITH THE MOUNTING BOARDS

1 From ¾" walnut, cut the two mounting boards (A) to 4×24" long.

2 Mark a centerline the length of each board. Center a compass point on the marked line, and mark a 2" radius on the ends of each board. Cut the marked ends to shape and sand both boards smooth.

3 Using the dimensions on the Upper and Base Unit drawings, mark three centerpoints on the centerline of each mounting board for the 5⁄32" holes. You'll use these holes later for mounting the rod holder (B) and butt-end support (E). Measure down ⅝" from the center of each *outside* centerpoint on the upper-unit mounting board and down ¾" on the base-unit mounting board, and mark a pair of centerpoints on each board. You'll use these holes later for mounting the assemblies to the wall.

Drill a 5⁄32" hole at each centerpoint and countersink where shown on the drawings.

4 Rout a ¼" cove along the front face of each mounting board. Sand both boards smooth.

NEXT, THE ROD HOLDER AND BUTT-END SUPPORT

1 Cut a piece of ½"-thick walnut to 2" wide by 22¾" long. If you don't have any ½" stock, plane or resaw thicker stock to ½".

2 Rip a 1¼"-wide strip from the ½" walnut for the rod holder (B). Rip a strip ⅛"-wide from the remaining piece for the top retainer strip (C). Repeat the process to rip a ⅛"-wide by 23"-long bottom retainer strip (D) from the edge of a ¾"-thick board.

3 Follow steps 1 through 6 on the drawing titled "Forming the Rod Holder" to finish the assembling of the rod holder (B). (You'll do steps 7 and 8 later.)

4 Cut the butt-end support (E) to 2" wide by 23" long. Now, refer to the dimensions on the Base Unit Drawing, and mark the dado locations. Cut the 1½" dadoes ⅜" deep. Wrap sandpaper around a ¾"-thick piece of scrap, and sand the dado bottoms smooth.

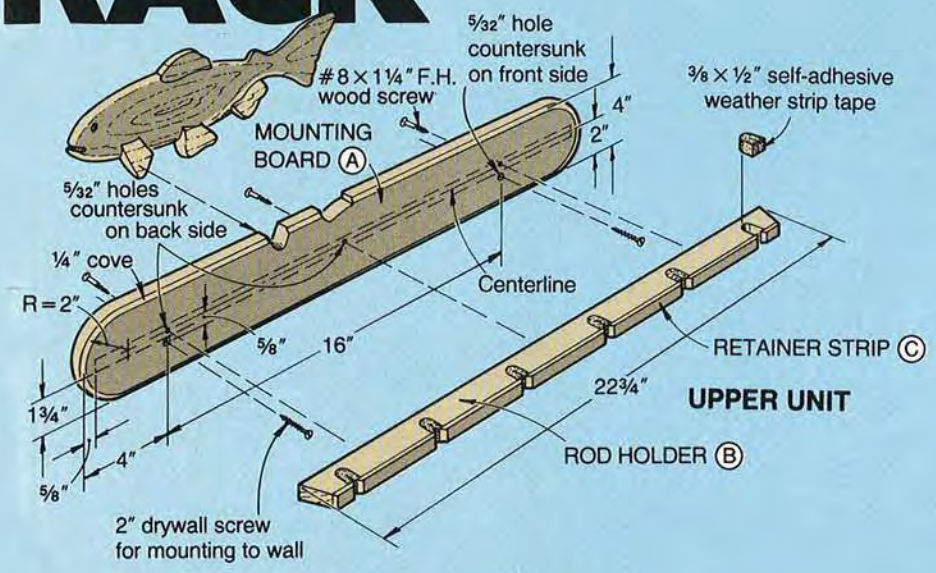
5 Glue and clamp the ¾" retainer strip (D) to the front edge of the butt-end support. Mark and miter-cut the angled ends.

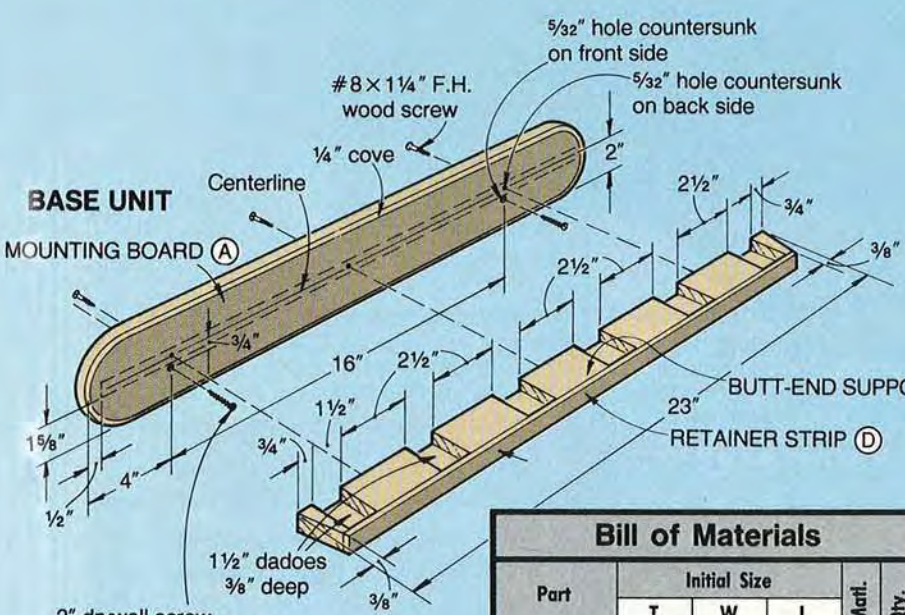
6 Sand both mounting boards, the rod holder, and the butt-end support. Glue and screw the rod holder and butt-end support assemblies to the mounting boards.

Note: If you prefer not to spend the time cutting and shaping the fish, skip to the section titled "Finish It, Hang It, And Add The Rods" to complete the rod rack.

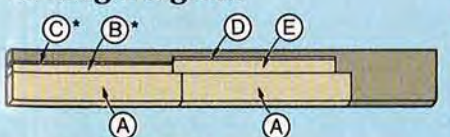
Continued

RACK





Cutting Diagram



¾ × 7¼ × 72" Walnut

*Plane or resaw parts (B) and (C) to ½".

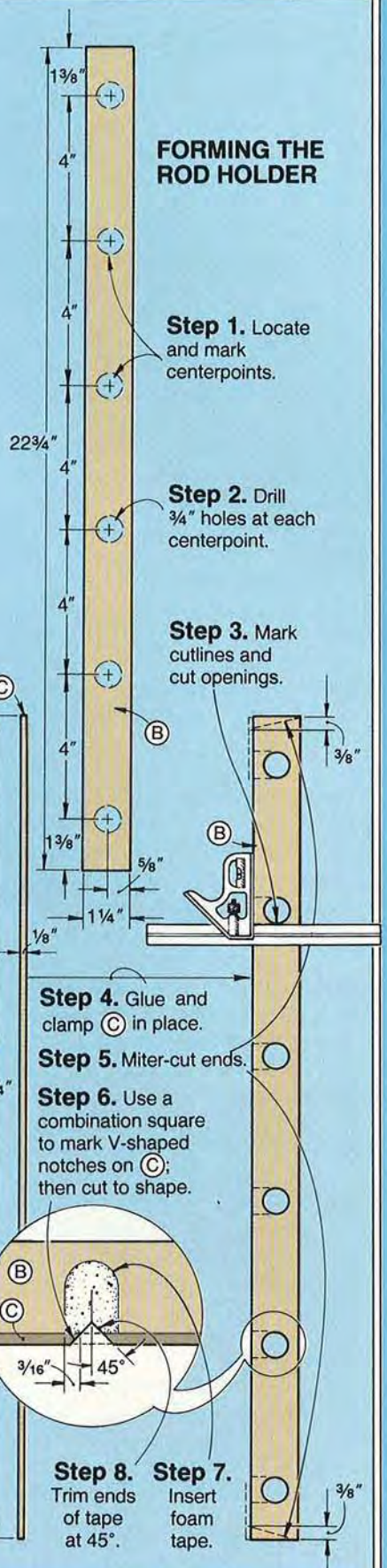
Bill of Materials

	Part	Initial Size T	W	L	Matl.	Qty.
A	mount. boards	¾"	4"	24"	W	2
B	rod holder	½"	1¼"	22¾"	W	1
C	retainer strip	⅛"	½"	22¾"	W	1
D	retainer strip	⅛"	¾"	23"	W	1
E	butt-end support	¾"	2"	23"	W	1
F	fish blank	¾"	5"	14"	O	1

Material Key: W—walnut, O—oak

Supplies: weather-strip tape with self-adhesive backing (the closed-cell tape we used measures ½" wide by ⅜" thick), #8 × 1¼" flathead wood screws, 2" drywall screws or toggle bolts, finish.

FORMING THE ROD HOLDER



Step 1. Locate and mark centerpoints.

Step 2. Drill ¾" holes at each centerpoint.

Step 3. Mark cutlines and cut openings.

Step 4. Glue and clamp (C) in place.

Step 5. Miter-cut ends.

Step 6. Use a combination square to mark V-shaped notches on (C); then cut to shape.

Step 7. Insert foam tape.

Step 8. Trim ends of tape at 45°.

FISHERMAN'S ROD RACK

NOW, SHAPE YOUR FISH

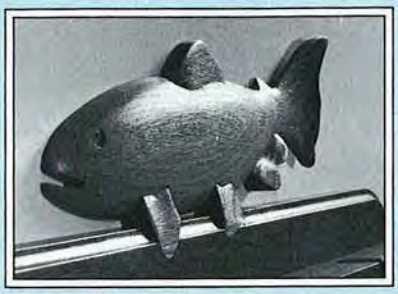
1 Cut a piece of paper to 5×14″, and draw a 1″ grid on the paper. Using the Fish Pattern for reference, lay out the fish outline, eye location, and fin patterns on the marked grid. To do this, mark the points where the pattern outline crosses each grid line. Then, draw lines to connect the points.

2 Cut a piece of ¾″ oak to 5×14″ for the fish blank (E). With carbon paper, transfer the fish pattern and eye centerpoint to the oak. Cut the fish to shape, and cut around the fins' outlines to separate them from the body. (We used a scrollsaw.) Cutting the fins from the body allows you to sand the fish body independently of the fins.

3 Using a brad-point bit, drill a ⅜″ hole ¼″ deep for the fish's eye where marked.

4 Chuck a 60-grit drum sander into your drill press or portable drill. Using the Top-View Drawing and the photo *above right* for reference, sand the fish body to shape. (The front end of a belt sander also works well.)

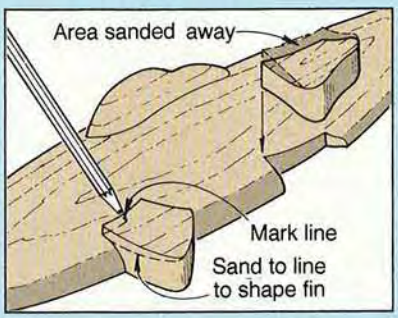
5 To make the back fin appear in motion, sand the back side of the tail fin to the shape shown on the Top-View Drawing.



6 As shown on the drawing *below*, position the fish body on a flat surface. Place each fin into the recess from which it was cut. Mark a line from the bottom outside edge of the fins to the point where the fins meet the contoured-fish body. Draw another across each fin as shown. Sand to the lines to shape the fins.

NEXT, MOUNT THE FISH

1 Glue the fins into position against the fish body.



PATTERN OFFER

Full-sized fish pattern. To order, send us a self-addressed, stamped, No. 10 business envelope to:
Something Fishy
WOOD Magazine
Locust at 17th
Des Moines, IA 50336
Offer expires February 15, 1990.

2 Position the fish over the top mounting board, center it between the ends, and trace the two fin patterns onto the top of the mounting board. See the drawing *below* for reference. Cut away the material you just outlined. Glue the fish into place on the top of the board.

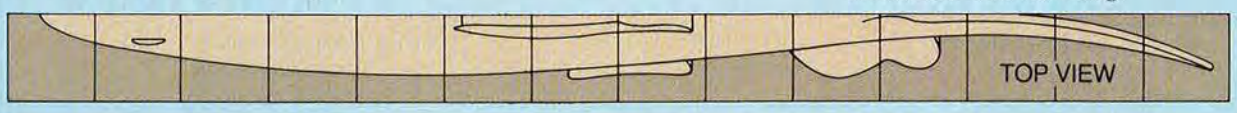
FINISH IT, HANG IT, AND ADD THE RODS

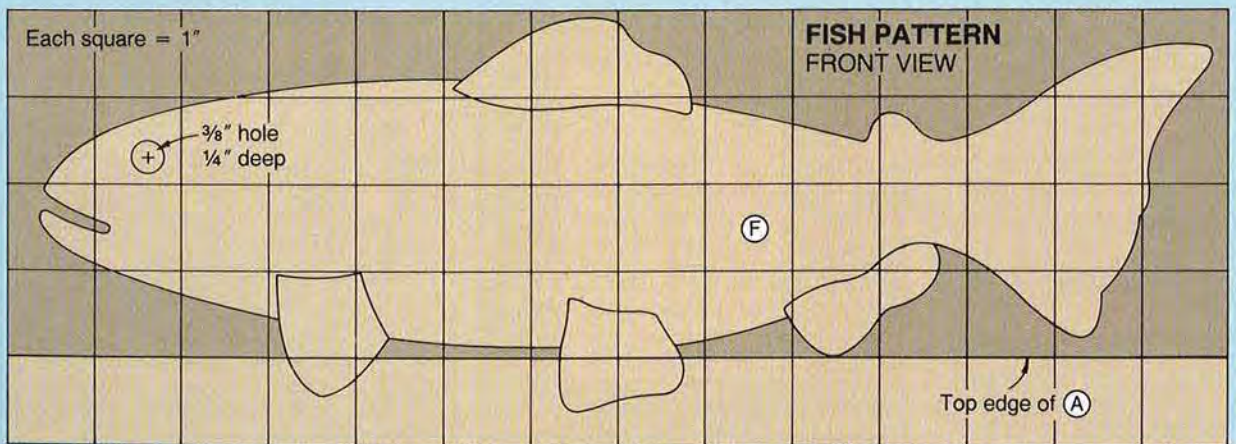
1 Finish-sand all the parts; then apply the finish of your choice.

2 Cut six 2¾″-long pieces from ½″-wide weather-strip tape. Remove the paper backing, and insert the foam strips into the notches in the rod holder where shown on Step 7 on the drawing titled "Forming The Rod Holder." Using a sharp razor blade, follow Step 8 to cut the ends of the tape.

3 Use 2″ drywall screws if you can hit a stud; if not, use toggle bolts and attach the upper and base units to the wall.

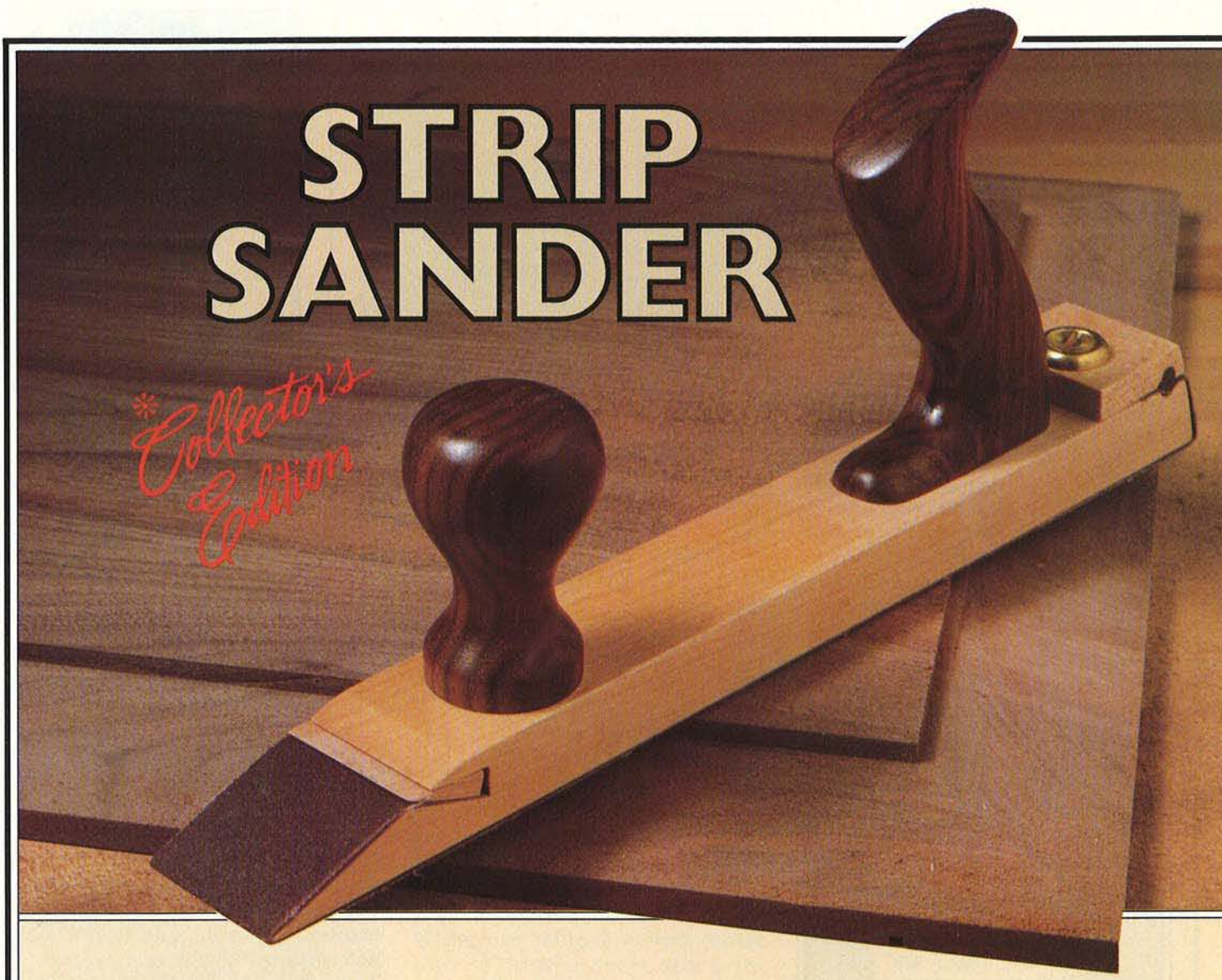
Produced by Marlen Kemmet
Project Design: James Downing
Photographs: Hopkins Associates
Illustrations: Kim Downing





STRIP SANDER

*Collector's Edition



If you're a stickler for details (and every woodworker should be!), we hope you build this terrific walnut and maple strip sander. "It's the perfect tool for cleaning cabinet joinery," says Jim Downing, our design editor. We agree: With this tool, you can sand right up to an edge or corner for the smoothest surfaces imaginable.

Speaking of cabinet cleanup, check out our shop-tested technique article beginning on page 34. It has all kinds of pointers you can put to good use in your woodworking.

Print this article

LET'S START WITH THE MAPLE BODY

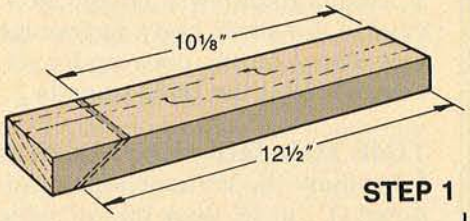
1 Rip and crosscut a piece of ¾"-thick maple to 1½" wide by 13½" long for the strip-sander body (A).

2 Using the two dimensions listed in Step 1 on the drawing *below*, mark an angled cutline on one edge of the maple body. Cut along the marked line. (We used our bandsaw fitted with a ⅜" blade.)

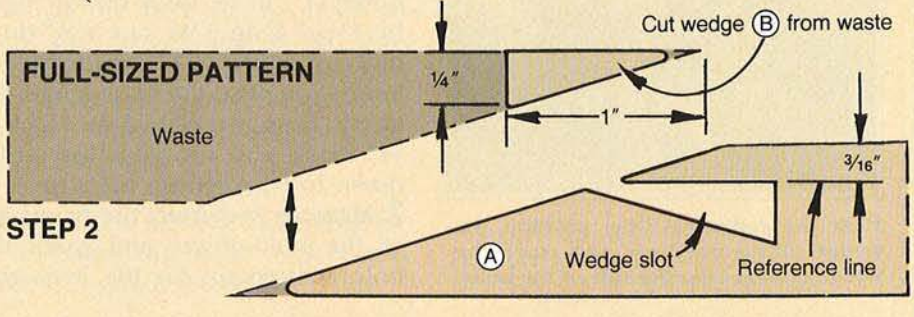
3 Following Step 2 on the drawing *below*, cut the wedge (B) from the waste piece of maple.

4 Mark a reference line along either side of the maple body 3/16" from the top edge where shown on Step 2. Position the maple wedge

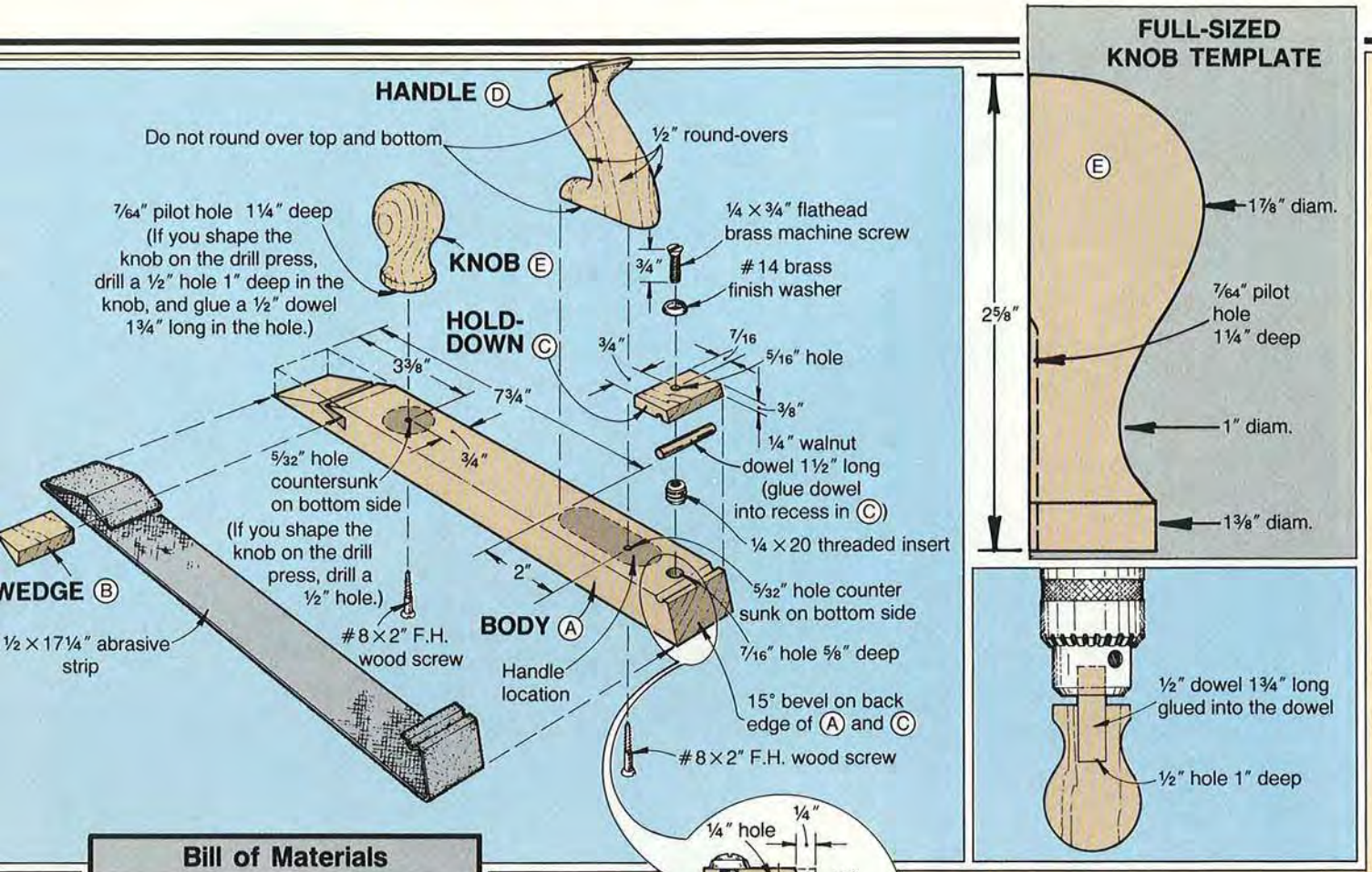
Continued



STEP 1



STEP 2


HANDLE (D)
Do not round over top and bottom
½" round-overs
7/64" pilot hole 1¼" deep (If you shape the knob on the drill press, drill a ½" hole 1" deep in the knob, and glue a ½" dowel 1¾" long in the hole.)
KNOB (E)
¼ × ¾" flathead brass machine screw
¾"
#14 brass finish washer
HOLD-DOWN (C)
¾"
7/16
5/16" hole
3⅜"
7¾"
⅜"
¼" walnut dowel 1½" long (glue dowel into recess in (C))
5/32" hole countersunk on bottom side
(If you shape the knob on the drill press, drill a ½" hole.)
¾"
¼ × 20 threaded insert
2"
5/32" hole counter sunk on bottom side
WEDGE (B)
½ × 17¼" abrasive strip
#8 × 2" F.H. wood screw
BODY (A)
7/16" hole ⅝" deep
Handle location
15° bevel on back edge of (A) and (C)
#8 × 2" F.H. wood screw
FULL-SIZED KNOB TEMPLATE
(E)
1⅞" diam.
2⅝"
7/64" pilot hole 1¼" deep
1" diam.
1⅜" diam.
½" dowel 1¾" long glued into the dowel
½" hole 1" deep
¼" hole
¼"
15°
⅝"
½"
1¼"

THREADED INSERT DETAIL
Section View

Bill of Materials

Part	Finished Size* T	W	L	Matl.	Qty.
A* body	¾"	1½"	12⅜"	M	1
B* wedge	¼"	1½"	⅞"	M	1
C* hold-down	⅜"	1½"	1½"	M	1
D handle	1 1/16"	3"	4 7/16"	W	1
E* knob	1⅞" diam.		2⅝"	W	1

Material key: M—maple, W—walnut
*Initially cut * parts oversized. Trim them to finished size according to the how-to instructions.
Supplies: ¼-20 threaded insert, paraffin wax, ¼ × ¾" flathead brass machine screw, #14 brass finish washer, two #8 × 2" flathead wood screws, ¼" walnut dowel, finish.

Mark the reference line, position the wedge along the line, and trace the wedge outline onto the side of the body.

along this line as shown in the photo *below left*, and trace its outline onto the side of the maple body. Cut the notch to shape and check the fit of the wedge in the slot; you want it to slide in easily.

5 Sand a round-over on the front edge of the maple body and wedge (see Step 2 on the drawing for reference). Sand the body smooth.

TIME FOR THE HOLD-DOWN

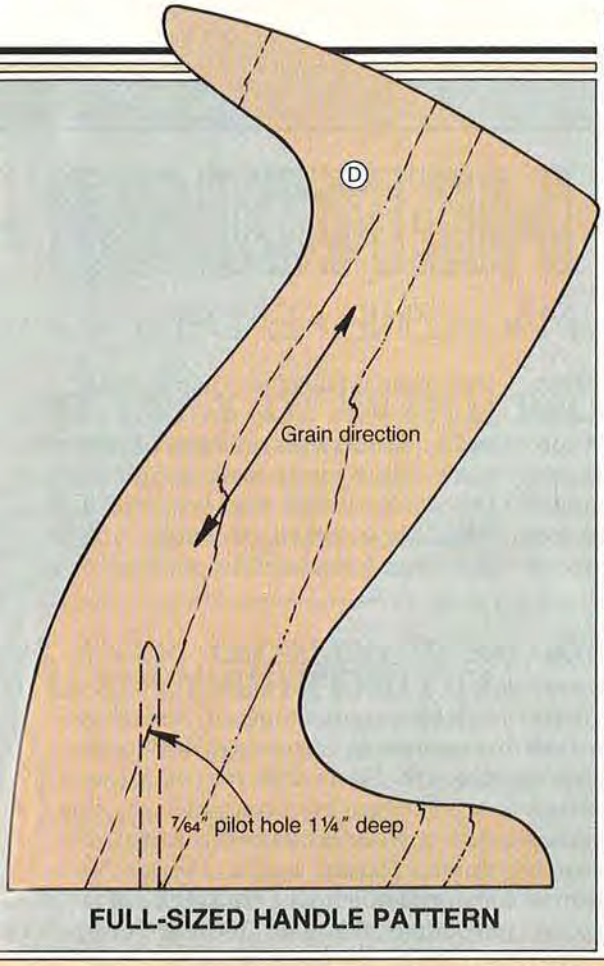
1 Bandsaw the abrasive strip hold-down (C) to ⅜" thick by 1½" wide by 11 1/16" long. (We cut a ¾"-thick piece of maple to 1½" wide by 12" long—you need the extra length for safety. Then, we planed the stock to ⅜" thick and crosscut the hold-down to length from the strip.)

2 Measure 7/16" from the front end of the hold-down, and mark the hole centerpoint for the brass machine screw where dimensioned on the Exploded-View Drawing. Secure the hold-down in a small hand-screw clamp, and drill a 5/16" hole through it where marked.

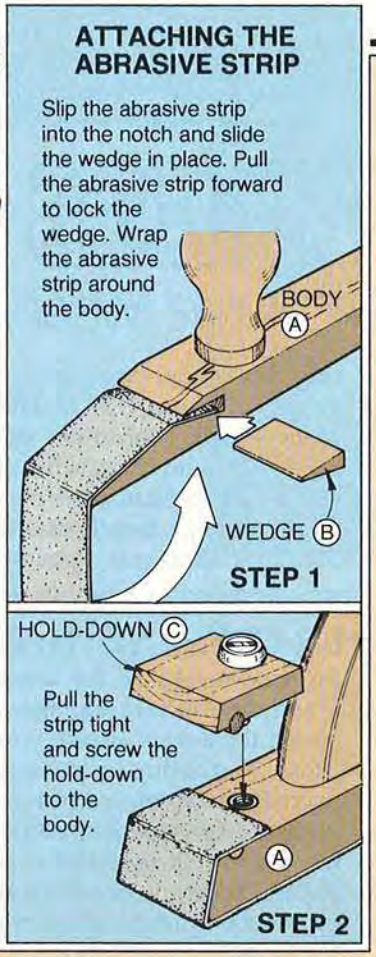
3 Position the hold-down on the body, with the back and side edges flush. Trace the hole location onto the body, remove the hold-down, and drill a 7/16" hole ⅝" deep centered over the drawn circle.

4 Rub the threads of a ¼-20 threaded insert against a piece of paraffin wax (this makes driving the insert into the maple easier). Using a large screwdriver, drive the insert into the 7/16" hole in the body. (See the tip and photo on page 74 for another method of installing inserts.) With a ¼ × ¾" machine screw and #14 finish washer, screw the hold-down to the body.

5 Mark the centerpoint for the ¼" dowel on the joint line between the body and the hold-down (see the Threaded Insert Detail for exact location). As shown in the photo *above right*, drill a ¼" hole on the joint line where marked.



FULL-SIZED HANDLE PATTERN


ATTACHING THE ABRASIVE STRIP
Slip the abrasive strip into the notch and slide the wedge in place. Pull the abrasive strip forward to lock the wedge. Wrap the abrasive strip around the body.
BODY A
WEDGE B
STEP 1
HOLD-DOWN C
Pull the strip tight and screw the hold-down to the body.
A
STEP 2

Mark the centerpoint on the joint line, and drill a ¼" hole where marked.

6 Mark the angled cutline along the back side edge of the body and hold-down (again, see the detail). Miter-cut the body and hold-down where marked. Remove the hold-down from the body.

7 From ¼" walnut dowel stock, cut a piece 1½" long. Glue and clamp the dowel into the groove drilled into the hold-down.

NOW, GET A HANDLE ON THIS PROJECT

1 Using carbon paper, transfer the handle pattern to 1 1/16" walnut, noting the direction of the grain on the Handle Pattern Drawing. If you don't have 1 1/16" walnut, laminate thinner stock to size.

2 Bandsaw the handle to shape. With your table-mounted router, rout ½" round-overs along the edges. DO NOT rout the top and bottom of the handle. (We stopped routing just short of the top and bottom. Then, we sanded to the top and bottom edges to complete the round-overs.)

3 To mount the handle, first refer to the Exploded-View Drawing for the position of the 5/32" mounting hole, and mark its centerpoint. Drill and countersink the hole.

4 Carefully position the handle on the body (see the Exploded-View Drawing again). Stick a nail up through the hole in the body to mark the centerpoint on the bottom of the handle. Drill a 7/64" pilot hole 1¼" deep in the bottom of the handle. Sand the handle smooth and set it aside.

TURN THE KNOB TO SHAPE

1 To make the knob (E), begin with a 2" square piece of walnut 3" long. If you don't have stock this thick, laminate thinner stock.

2 Using carbon paper, transfer the knob template pattern to poster board. Cut the template to shape.

3 Mount the walnut square between centers on the lathe. Turn the knob to shape, using the template. Finish-sand the knob before removing it from the lathe.

Note: *If you don't have a lathe, you can drill a ½" hole 1" deep, centered on the bottom of the knob blank. Glue a ½" dowel 1¾" long in the hole. Using a rasp and the template, shape the knob on your drill press as shown on the opposite page. To mount the handle, drill a ½" hole through the body at the same location where you'd drill the hole for the #8×2" wood screw.*

4 Referring to the Exploded-View Drawing for positioning particulars, locate and then drill a 5/32" shank hole through the body (A); countersink the hole on the bottom side.

5 Hold the knob in a handscrew clamp, and drill a 7/64" pilot hole 1¼" deep into the center of it.

ADD THE FINISH AND THE SANDING STRIP

1 Glue and screw the handle and knob to the body. Screw the hold-down in place. Add the finish.

2 Cut a 17¼"-long piece from a 1½"-wide abrasive roll (see the Buying Guide for our source; you also could cut sanding belts to make the strip). Follow the two-step drawing *above left* to attach the abrasive strip to the body.

BUYING GUIDE

- **Cloth-backed abrasive shop roll.** 1½" wide by 25 yards long. Available in 60-, 80-, 100-, 120-, 150-, 180-, 240-, 320-, and 400-grit rolls. $8 per roll plus $2.50 handling ($4 handling for orders over $35). Industrial Abrasives, 643 N. 8th St., Reading, PA 19612. Phone 800-428-2222 (800-222-2292 in PA) to order.

Project Design: James R. Downing
Photographs: Hopkins Associates
Illustrations: Kim Downing; Bill Zaun

Print this article

DRILL PRESS HEROICS

COURTESY OF 5 INNOVATIVE *WOOD*® MAGAZINE READERS

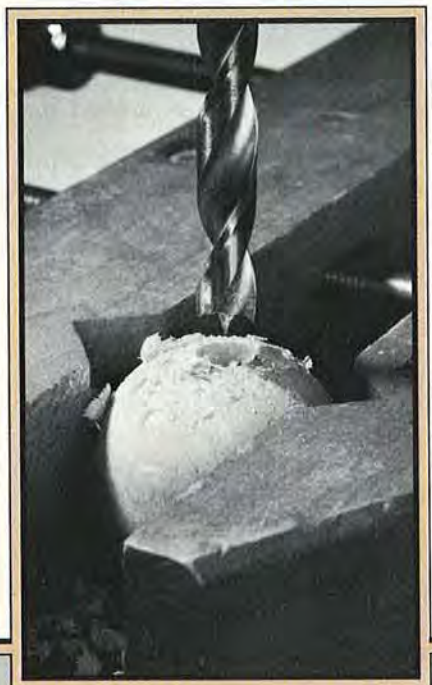
Remember the article we published last August showing 17 ways to expand the versatility of your drill press? In that story, we asked you readers to share with us other interesting uses you've found for this workshop workhorse. We're happy to report that you bowled us over with more than 100 submissions, and from the sizable stack of material, we've chosen five more tips to present. We feel the latest ideas rate right up with the original package. Thanks to all of you who took the time to write. We depend on—and appreciate—your input. And, congratulations to those readers whose ideas we selected. We hope you put your $25 check to good use!

DRILL PRESS PROVIDES GUIDING HAND

Canadian woodworker Steve Taylor, of St. Catharines, Ontario, eliminates a lot of grief when installing threaded inserts by calling on his drill press to guide the operation. Here's his advice: First, thread a nut—the diameter of which should match the internal threads of the insert—about 1" onto a bolt or threaded rod. After lubricating the insert with paraffin wax, thread on the insert until it and the nut lock together. Then, chuck the assembly into your drill press. With the insert centered over the hole, apply light pressure with the feed handle while turning the chuck by hand as shown *below*. Remember: DO NOT turn on the machine for this operation. See Steve's suggestion put to good use on page 72.

HAVE A BALL TRYING THIS

Hitchhiking on one of the ideas presented in our August 1988 article, Dr. Harold Heinz of Mesa, Ariz., suggests another safe way to drill a wooden ball or the end of dowel. Harold cuts a 1"-wide V-shaped notch in each jaw of a wooden clamp to hold the piece while he drills as shown *below*. We can assure you that the notches won't interfere with the normal operation of the clamp. To avoid marring soft woods, wrap masking tape in the notch. And, if this technqiue works well for you, cut various sizes of notches in several clamps.



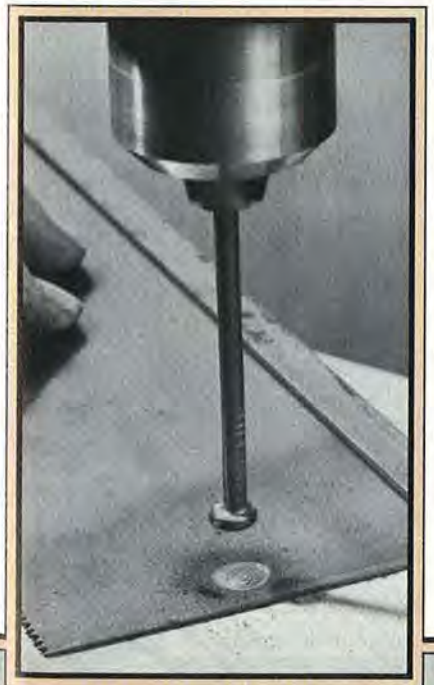
-PART II

NO TWIST TO AN OLD PROBLEM

We heard from Ronald Laycock of Benson, Minn., about an incredibly simple way to drill a series of perfectly aligned holes in dowel rod. Just cut a piece of flat stock the same length or longer than the dowel, and tape the dowel and stock together with masking tape as shown at *right.*

A SNAP: DRILLING HARDENED STEEL

Every time Gilbert Mathews of Guilford, Conn., wants to drill through hardened steel, he chucks an 8-penny common nail into his drill press. With his drill press running at about 1,200 rpm, this resourceful woodworker brings the head of the nail in contact with the steel until the area turns blue. (Be sure to support the workpiece with a piece of scrap wood.) The friction action on the steel (called annealing) softens the steel, enabling twist bits to zip right through the material. Try this technique to drill hanging holes for your squares.

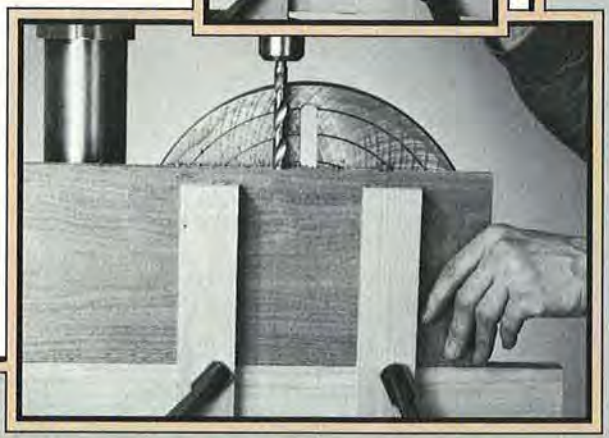


HORIZONTAL BORING A BREEZE

Russ Scaduto, Jr., of Elizabethtown, Pa., never wants for a horizontal boring machine in his shop, because he figured out a way to do the operation at his drill press. As Russ tells it, you first loosen the drill-press table tilt mechanism and rotate the table until it's approximately perpendicular to the floor. Then, chuck a straight 1′ piece of ½″ steel rod in the drill press to extend the line of travel of the quill. Adjust the table, now in vertical position, until you eliminate the gap between the table and the rod. Then, tighten the tilt-mechanism lock nut.

Next, attach a support board—one that's the same thickness as the board you plan to drill—to the drill-press table. (Two clamps and scrap material should hold it securely.) Use a combination square to check that the support board remains perpendicular to the rod as shown at *right.* Tighten the clamps. Before you go to the next step, check for square.

Now, remove the rod and insert your drill bit. Place the face of the stock against the drill-press table and flat on the support piece. Pivot the table and jig to center the bit on the stock. Before drilling, tighten the table. In this example, we drilled ½″ holes in 1″ stock.



Photographs: Hopkins Associates

CARVE A WHALE

A SYMBOL OF THE CALIFORNIA COAST BY BRUCE STAMP

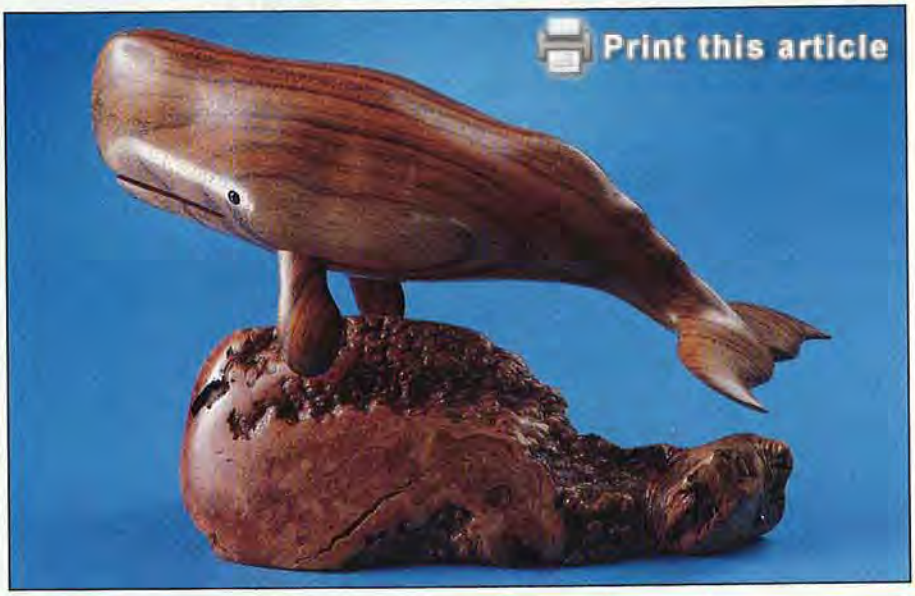
Bruce Stamp

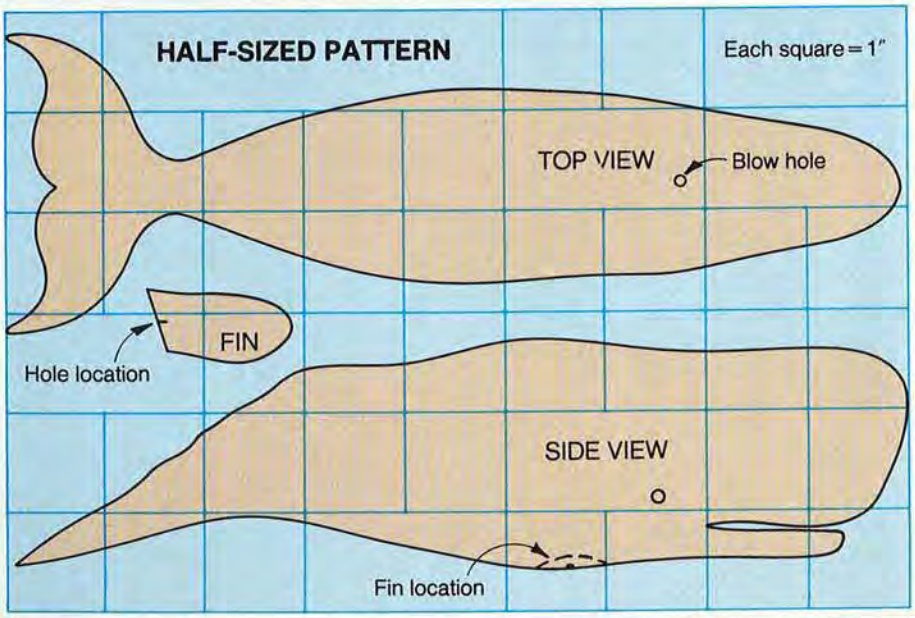
One in a collection of regional patterns from the nation's top carvers

Craftsman Bruce Stamp has always loved to work wood. As a kid, he built boats. One time, to his mother's dismay, Bruce "borrowed" a leaf from the family dining table to rework into a transom for a rowboat!

Now, Bruce pours his talent into re-creating in wood the shorebirds and marine life around California's Morrow Bay, where he lives and works. For feathers and flesh, Bruce substitutes eye-catching, exotic woods in many hues.

"I like to use mozambique for my sperm whales, but any dark wood will do," Bruce notes. "Whatever wood you select, you'll need a block of it measuring 2½×3×9". Although he mounts his sculptures on manzanita root, driftwood or a more traditional base will work.





CARVING AND FINISHING THE SPERM WHALE

"Lay out the pattern's top view on the 3" side of the wood, and the side view on the 2½" side," Bruce says. "Then, bandsaw the top view from the nose to the tail, but not all the way through the tail end," he advises. "Next, do the same to the other side. This leaves the block with some support for sawing the side view." Then, turn the block on its side and finish sawing the body.

Instead of hand carving, Bruce sculpts his creatures on a 1×42" strip sander with the table and platen removed. First, he contours the wood with a 50-grit belt, then refines with 150-, 240-, and 320-grit belts. Carving the whale's body, then sanding it, will give you the same result.

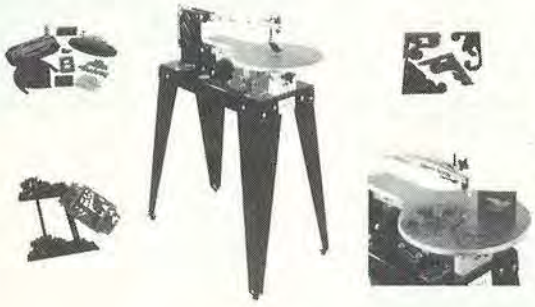
Drill a ⅛"-diameter eye hole about a ⅛" deep on each side of the body, then make the fins. Bruce cuts his ⅛"-thick fins from scrap left from the body, and gently thins and tapers their edges. "To attach each one, I use a ⅜" length of wire, about the diameter of a brad, as a pin. I insert it in the body end of the fin," he says, "then drill holes and epoxy them in place." Drops of epoxy also will serve as the eyes. Makes pupils with dots of black paint. Complete your whale with any clear finish.

To obtain a free, full-sized pattern, send a self-addressed, stamped, business-sized envelope to:

ONE WHALE OF A PATTERN
***WOOD*® magazine, Locust at 17th, Des Moines, IA 50336**
Offer expires January 1, 1990.

Drawings: Jim Stevenson
Design: Bruce Stamp
Photograph: Hopkins Associates

rbindustries family of precision, quality tools, American - made and affordably priced



The RBI HAWK Scroll Saw

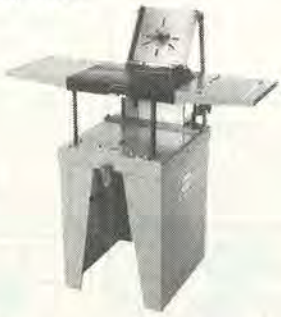
Family of Precision Scroll Saws

America's largest line of Precision Scroll Saws can unlock your creativity. With **6 models to choose from**, there is one suited for **your needs**. It takes a real woodworker to build a first class tool and that's what RBI is all about. We're American Woodworkers building quality, affordable tools with pride for you - the American Woodworker. Send today for your free information kit to see why rbi is the best value for your woodworking dollars.

The RBI JOINT MACHINE

Precision Joint Making • Spindle Shaper • Router Table • Inverted Pin Router

Create beautiful wood joints so precise, you may be tempted not to glue them! **Making finger joints, mortise and tenons, all types of dovetail joints, mitered joints, and raised panel doors has never been easier.** Your rbi Joint Machine can also convert into a spindle shaper or an inverted pin router with accessory attachments. Send for your free fact kit today!



The RBI WOODPLANER™

Planer • Sander • Molder • Gang Rip Saw

Four essential woodworking functions designed into one precision, dependable machine. **Plane** your rough stock into dimensioned lumber **to the size you want, save yourself hours of hand sanding using the sanding attachment**, you can **edge cut and width dimension** your stock with the **power-fed gang rip saw** attachment, or **create beautiful standard or custom moldings out of any wood you want** with the molding head assembly. All these functions without having to remove the knives from the cutterhead and the time and trouble needed to reset the planer knives again like other machines on the market. Send today for your free fact kit on this extraordinary tool!

Call Toll Free 1-800-535-8665
(In MO 816-884-3534) for information
Dealer Inquiries Invited

rbindustries
1801 Vine St.
PO Box 369
Harrisonville, MO
64701

Yes, Please rush me a free fact kit on:
___Hawk Scroll Saws ___Woodplaners
___Joint Machine (Mark Interest)
Name_____
Address_____
City_____
State_____ Zip_____ **W32**

FULL SIZE WOODCRAFT PATTERNS

SIMPLE TO MAKE ★ FUN ★ PROFITABLE

- ☐ 200 pattern packet for scroll, band & jigsaws
- ☐ "Country Critters"-100 patterns, unique projects
- ☐ 6 enjoyable "Wind-Action" whirligigs
- ☐ "Country Classics" - best selling country projects
- ☐ 100 yard ornaments, animals, birds and more
- ☐ 17 "Show Stoppers" - craft show best sellers

Send $7.00 per blueprint packet or choose any 3 FOR ONLY $14.00.

Fast Service • Satisfaction Guaranteed!

ACCENTS Dept. MA79, Box 7387, Gonic, NH 03867

Catalog of 1000 patterns $2.00 (Free with order)

SPECIAL OFFER

BRANDING IRON

For hard and soft wood

$24.00

Plus $2.00 for shipping and handling

Nebr. residents add correct sales tax

SATISFACTION GUARANTEED or your money back

- Shipped in 1 week
- Solid brass head — deep cut letters
- First Line: HAND CRAFTED BY — as above
- 2nd line: Your choice — 20 characters/spaces max.
- Compact size
- As above but with 3rd line — $37.00 + $2.00

ORDER TOLL FREE 1-800-826-7606 (except Nebraska)
In Nebraska 1-402-464-0511

For free brochure, write or call (402) 464-0511

Order by mail from: **NOVA TOOL CO.**
12500 Finigan Rd., Dept. BH
P.O. Box 29341, Lincoln, NE 68529

VISA MasterCard

Van Dyke's

Presents a Catalog with supplies for upholstery, antique restoration, wood working, caning, brass hardware, carvings and many related trades!

36 Years in Creative Arts & Trades

Many Hard-To-Find Items!

SEND $1.00 FOR CATALOG TO:
Van Dyke's Restorers
Dept. D55 · Woonsocket, SD 57385

Quality
EXOTIC WOOD TURNERS

Burls / Thick Planks / for Bowls / Squares

CABINET MAKERS

Individually Selected Lumber for Furniture / Boxes / Inlays

OVER 70 SPECIES

All Inquiries Welcome – Call or Write

THE BereaHardWoods Co.

125 JACQUELINE DRIVE, DEPT. 10
BEREA, OHIO 44017
216-243-4452

"It's a Matter of Pride for Both of Us"

SCROLL SAW LETTERS EASILY...

...with Seyco's Layout Guides!

SPECIAL! (Style #RST-001) **1½" (pictured above)** $25.00 includes brochure and shipping cost.

Make Name Plates, Signs, Gifts and more.

Our unique Lettering Guides are available in many styles and sizes to suit your needs. Upper and Lower Case, Script and Block Styles...and numbers too. Send $1.00 for brochure and prices to:

SEYCO *The Scroll Saw Specialists*

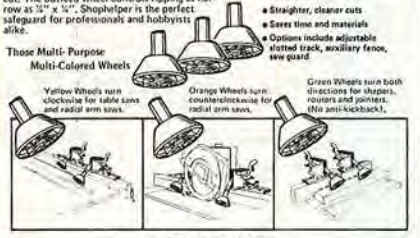
1414 Cranford Dr. • Box 472749 • Garland, TX 75047

Shophelper®

$69.95

- All Wheels can be Sold Individually and are Interchangeable on Arms
- Three different dual-wheel designs, including single and multi-directional
- Wide range of shop uses
- Provides a virtually accident-free environment
- Straighter, cleaner cuts
- Saves time and materials
- Options include adjustable slotted track, auxiliary fence, saw guard

SHOPHELPER. Holds it down for a cut above.
Shophelper's unique double wheel configuration gives it the stability required to virtually eliminate kickback and enhance safety. The infeed wheel holds the material down to stabilize the cut. The outfeed wheel controls ripping as narrow as ⅜" x ¼". Shophelper is the perfect safeguard for professionals and hobbyists alike.


Those Multi-Purpose Multi-Colored Wheels
Yellow Wheels turn clockwise for table saws and radial arm saws.
Orange Wheels turn counterclockwise for radial arm saws.
Green Wheels turn both directions for shapers, routers and jointers. (No anti-kickback).

Call For Nearest Dealer
Call Toll Free: 800-344-7455 • In California Call: 800-828-8833
WESTERN COMMERCIAL PRODUCTS • P.O. Box 238, Tulare, CA 93275

ANTIQUE reproduction furniture HARDWARE

HORTON BRASSES
Nooks Hill Rd. PO Box 120J
Cromwell, Ct 06416 203-635-4400
send $3.00 for a catalog

Wood-Mizer®

World's Largest Manufacturer Of Portable Sawmills

OWN YOUR OWN SAWMILL

Four Models To Choose From

BUY DIRECT

1(800)553-0219

In Indiana call: (317) 271-1542

FREE 44-page catalog or use your MasterCard or VISA to order our 50-minute demonstration video–$10.00

Wood-Mizer Products, Inc. • Dept. QQ35
8180 W. 10th St., Indianapolis, IN 46214-2430

Wood Moisture Meter

- Avoid Moisture Problems
- Protect your Masterpiece

MINI LIGNO

Incl. Case, Batteries and Pins for 3/16" and 7/16" Measuring Depth,

only **$110**

also from Lignomat:
MINI-LIGNO E
Range: 6%

Easy-to-use, sturdy instruments for the professional woodworker or serious hobbyist. Great for lumber, veneer, fiberboards. Ask for free catalog on the complete line of moisture meters and accessories for kiln drying.

Lignomat USA Ltd. P.O. Box 30145bh
503-257-8957 800-227-2105 Portland, OR 97230

MAKE THESE!

WAGNER SAFE-T-PLANER

Fits Drill Press or Radial Arm Saw

ABSOLUTELY SAFE!
Impossible to Grab or Kick Back

PICTURE FRAMES, RAISED PANELS, ROSETTES, PLANES, RABBETS, TENONS, MOULDINGS

KIT INCLUDES: 3 lifetime hi-speed steel cutters, grinding wheel, arbor, wrench, 8 pg. photo instructions.
MONEY BACK GUARANTEE!

DRILL PRESS KIT $35.00 $2.50 S&H OK ADD TX

RADIAL SAW KIT $40.00 *(State Make, Model, Shaft Dia)*

Order Direct—
Write For Free Literature
G & W TOOL CO.
P. O. Box 691464
Tulsa, OK 74169
(918) 486-2761

"Quality Planers Since 1956"

Small Shop Tips and Techniques

A *Fine Woodworking* Video Workshop

- Rent this in-depth video for 21 days for just $14.95 (VHS or Beta).
- Tips on working with the band-saw and table saw. With booklet.

The Taunton Press
Video Dept.
63 South Main Street
Box 355CR
Newtown, CT 06470
1-800-888-8286

TAUNTON BOOKS & VIDEOS ...by fellow enthusiasts

Credit-card orders only.

Full-Size Professional Plan

ADIRONDACK CHAIR

Make this classic American design. Our special version may be folded for storage by using ordinary hardware available at your local store. Be ready for Summer and get your plan now!

CATALOG 200 full-size professional furniture plans — $2.00

Plan #700 . . . . . $12.00
(Catalog free with order)

FURNITURE DESIGNS, INC. Dept. BA-89
1827 Elmdale Ave., Glenview, IL 60025
(312) 657-7526

TREATED WOOD

Continued from page 47

point to the boards on his deck that he mistakenly fastened with the bark side down. "They're the warped boards," Lee says. Even if you have to sand off an ugly grade stamp that appears on the bark side, follow this important guideline whenever possible.

Build with hot-dipped galvanized nails/screws. Moisture and weather demand fasteners that stand up to the elements. Use 12d spiral or ring-shanked nails on nominal decking. Some lumbermen even recommend 2½" deck screws. "I've had twisted CCA wood that pulls out 16-penny galvanized nails," says Terry Fenimore, who builds projects for our sister magazine, *Weekend Woodworking Projects.* "It's that strong."

Drill holes. Even if you nail together treated wood, take the time to drill pilot holes close to the ends of lumber. That's your best insurance against unsightly splits.

Don't hurry finishes. Treated wood weathers to a gray-green, but some homeowners prefer other colors. Just as with untreated wood, treated wood must be surface dry before a brushed or sprayed finish will adhere. John Cashmore of Weyerhaeuser recommends that "you not paint or stain until the *bottom* of the board is dry to touch. We suggest you wait two to four weeks before finishing."

You can stain or paint treated wood, but if you do, follow manufacturer's instructions. Look for water repellents specifically designed for pressure-treated wood.

In select locations, Hickson Corporation has introduced Wolmanized Extra, a premium-price, pressure-treating solution containing water repellents. Unlike brush-on repellents that treat only the surface, Wolmanized Extra penetrates the entire board. And, expect Osmose to step up promotion of their 15-year-old Weather Shield wood with the same benefits. Neither product permanently protects wood; you'll need to brush on repellents in two to three years. And, Cashmore cautions that some paint or stain won't adhere well to wood treated with water repellents.

Maintenance. Decks—just like cars—require regular care to battle the effects of sun and moisture. Your investment in outdoor wood deserves an annual or biannual cleaning and recoating with water repellents. Most major franchisers also sell rejuvenating solutions.

Warranty. Major firms back up their products with warranties—up to lifetime limited warranties for as long as you own your home. Before you buy, find out if the chemical company stands behind its product.

NEED MORE INFORMATION?

For general information about CCA-treated wood:

- **American Wood Preservers Institute.** Free Consumer Information Sheets and *Questions and Answers About Treated Wood.* 1945 Old Gallows Road, Suite 550, Vienna, VA 22182.
- **Osmose.** For deck-building pamphlets and CCA information, call 800-522-WOOD.
- **Weyerhaeuser.** *All You Need to Know About Wood That Goes Outdoors,* call 800-548-5767.
- **Wolmanized Wood.** *How to Build a Deck* and *Straight Talk on the Safety and Use of Wolmanized Wood,* $2 ppd. from Hickson Corporation, 426 Seventh Ave., Room 750, Pittsburgh, PA 15219.
- For regulatory information, Environmental Protection Agency, Office of Pesticide Programs, Mail Stop H7508C, 401 M St., SW, Washington, DC 20460.

Written by Carl Voss
Photographs: Osmose Corporation; Hickson Corporation

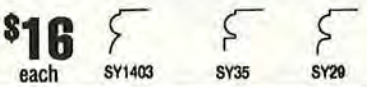
Cascade Precision Tool Co.
Box 648, Mercer Island, WA 98040

Call Toll-Free: 1-800-235-0272

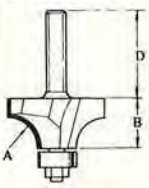
Ask for our new 1989 catalog! Great SALE prices!! Exciting new profiles!! Super selection of top-quality carbide-tipped SY brand router bits and shaper cutters at terrific factory-to-you prices like:

A Choice of Edge Beading Bits

$16 each



Roundover



PART NO.	A	PRICE
S502Y	1/16R	$11
S504Y	1/8R	$11
S506Y	3/16R	$11
S508Y	1/4R	$12
S510Y	5/16R	$13
S512Y	3/8R	$15
S516Y	1/2R	$16
* S516Y-1/2	1/2R	$16
* S520Y-1/2	5/8R	$20
* S524Y-1/2	3/4R	$20
* S528Y-1/2	7/8R	$34
* S532Y-1/2	1R	$34
* S536Y-1/2	1-1/4R	$40

NEW Concept in Router Bit Cabinet Door Construction

The SY brand 3" Panel Raiser with undercutter in 5 profiles automatically provides a 1/4" tongue.

$59.95 each

Carbide Tipped Shaper Cutter Panel Raiser

3 Wing, 5 profiles, 3mm thick carbide
- 4-5/8" O.D. with 3/4" bore (1/2" bushing)
- 5-1/2" O.D. with 1-1/4" bore (1" bushing)

$69.95 each

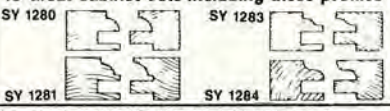
6 pc. Carbide Tipped Shaper Cutter Cabinet Sets

- 3mm carbide
- 3/4" bore w/12" bushing

$179.95 each

(1-1/4 Bore w/1" Bushing – only $249.95)

13 Great Cabinet Sets including these profiles



MC/VISA/COD USERS ORDER TOLL FREE
1-800-235-0272
IN WASHINGTON STATE
CALL 1-236-0272
7 AM - 7 PM Monday- Friday (P.T.)

NEW

FREE - The most complete selection of scroll saw blades, accessories, and improvements for almost any scroll saw, plus much, much more!

Catalog from the exclusive distributers of HEGNER & FELDER Woodworking Machinery.

Includes HEGNER Precision Scroll Saws, Lathes & Lathe Duplicators, JET Clamps, Workbenches, FELDER Systems, and more!

A $2.00 value, now offered **FREE** during this special promotion.

CALL TODAY 1•302•322•2226
FOR YOUR COPY

Name _____

Address _____

City, State, Zip _____

Phone ( ) _____

ADVANCED MACHINERY IMPORTS LTD.
P.O. Box 312
Dept. 345
New Castle, DE
19720

NOW! Get in on the PROFITS in SMALL ENGINE REPAIR

Work part time, full time — right at home — we help you every step of the way.

No doubt about it . . . as a small engine pro, you can cash in on the huge demand for qualified men in one of America's fastest growing industries. You'll be able to command top hourly rates of from $25.00 to $30.00 per hour — and that's just for labor.

Plenty of business waiting for qualified men. 65,000,000 Small Engines Are In Use Today!

That's the official count from the Engine Service Assn., and one-million new engines are being built each month. With Foley-Belsaw training, you can soon have the skill and knowledge to make top money servicing these engines.

Professional Tools and Equipment PLUS 4 hp Engine . . . . All YOURS TO KEEP . . . . All at No Extra Cost.

NO EXPERIENCE NECESSARY!

You don't need to be a 'born mechanic' or have any prior experience. Lessons are fully illustrated . . . so clear you can't go wrong, and with our famous 'learn-by-doing' method you get practical 'hands-on' experience.

Foley-Belsaw Institute, 6301 Equitable Rd. Dept. 51683, K. C., MO. 64120

FREE BOOKLET! Send for your copy today!

☐ YES, please send me the FREE booklet that gives full details about starting my own business in Small Engine Repair. I understand there is No Obligation and that No Salesman will call on me

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

PORTABLE BELT SANDERS
HOW TO CURE AN UNEVEN SANDING PATTERN

We discovered something important during our tests of portable belt sanders for the article beginning on page 54. As improbable as it might seem, some of these machines suffer from platens or slip plates that aren't flat. The result: marginal to downright unacceptable sanded surfaces. In fact, one of these defective sanders may be lurking in your workshop right now. We'll show you how to remedy the problem before it causes you a headache.

A thin piece of laminate between the platen and cork pad provided the final cure for this sander.

DIAGNOSE THE AILMENT

First, try the polyester-coated particleboard test we describe on page 56. If your sander doesn't produce an even sanding pattern, follow these steps:

Remove the slip plate and cork pad, and check the platen for flatness using a straightedge. If the platen is warped, you may be able to purchase a new one.

In the event the platen has a true surface, reattach the cork pad and slip plate. The plate should conform exactly to the shape of the platen. On several of the machines we tested, the plate was a little high in front as depicted in the illustration *below*. Such a bulge causes the sander to rest on two points (front and back of the platen), resulting in sanding ruts in both places.

TRY THESE SOLUTIONS

If it appears that the plate conforms to the shape of the platen, but wasn't mounted snugly against the cork pad and platen, enlarge the plate's mounting holes so you can slide it farther up the front of the platen. Should that not solve the problem, remove the slip plate and increase the bend at its mounting edge to make it fit even tighter.

Still not satisfied with your machine's sanding pattern? Then, check if the manufacturer of your sander supplies graphite pads. This alternative surface takes the place of the cork pad and slip plate and conforms exactly to the flat platen. If you can't obtain a graphite pad, here's a last resort solution that did the trick on one sander we tested: First, cut a piece of plastic laminate to the size of the platen and taper it toward both ends. Place the laminate between the cork pad and platen as shown *above*. On our unit, the laminate pushed out the middle of the slip plate enough to form a flat surface.

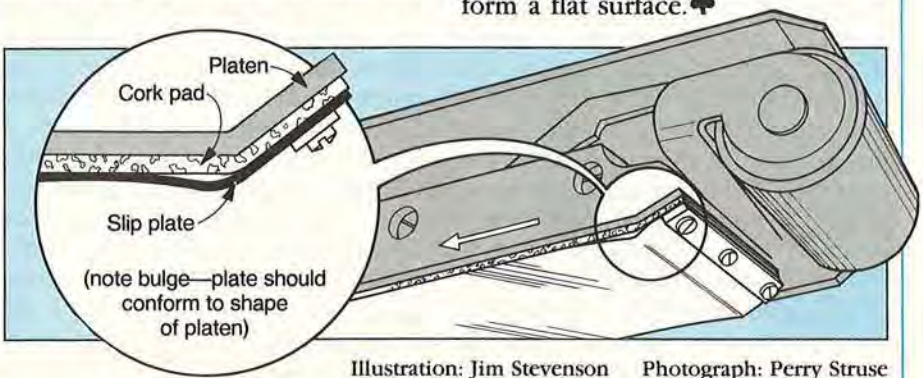


Illustration: Jim Stevenson Photograph: Perry Struse

Our 10th ANNIVERSARY Gift To You!

ACT NOW! Buy 1-Dozen Belts

12 Get 6 Belts FREE!

We are celebrating our 10th Year supplying Belts and Sanding Accessories direct to the Woodworker.

USE THIS AD TO ORDER

SANDING BELTS

Available in 36, 40, 50, 60, 80, 100, 120, 150, 180, 220, 240, 320 grit sizes. Please specify when ordering. We will ship an assortment of 24 Fine, Medium and Coarse unless otherwise specified.
BELTS – x weight, a/o, cloth.

- ☐ 1⅛" x 21" ..... $13.50/doz.
- ☐ 1" x 30" ..... 15.50/doz.
- ☐ 1" x 42" ..... 15.70/doz.
- ☐ 1" x 44" ..... 15.75/doz.
- ☐ 2" x 48" ..... 19.50/doz.
- ☐ 2½" x 16" ..... 16.50/doz.
- ☐ 3" x 18" ..... 16.75/doz.
- ☐ 3" x 21" ..... 17.75/doz.
- ☐ 3" x 23¾" ..... 17.90/doz.
- ☐ 3" x 24" ..... 18.00/doz.
- ☐ 3" x 27" ..... 18.50/doz.
- ☐ 4" x 21" ..... 19.95/doz.
- ☐ 4" x 21¾" ..... 20.00/doz.
- ☐ 4" x 24" ..... 20.50/doz.
- ☐ 4½" x 26" ..... 20.95/doz.
- ☐ 4" x 36" ..... 23.95/doz.
- ☐ 4⅛" x 52½" ..... 34.95/½doz.*
- ☐ 6" x 48" ..... 32.95/½doz.*
- ☐ 6" x 89" ..... 57.95/½doz.*
- ☐ 4" x 132" ..... 59.95/½doz.*

*(6 FREE)

STIKY DISC

Stiky Disc, Rugged Cloth. Buy5, get 1 FREE. Available in 50,80,120,180,240 grit size.

- ☐ 6" diameter ..... $5.00/pk.
- ☐ 8" diameter ..... 6.25/pk.
- ☐ 9" diameter ..... 7.50/pk.
- ☐ 12" diameter ..... 10.00/pk.

PRO'S BEST

- ☐ 0000 Steel Wool ..... $3.95/pk.
- ☐ 000 Steel Wool ..... 3.95/pk.

1 Pack contains 16 pads.

"Wooden Memories" PLANS

- ☐ Bessie the Cow $9.00
- ☐ Bill E. Goat 9.00
- ☐ Beezer the Burro 9.00
- ☐ Ole Grey Mare 7.00

Build an heirloom today!
Life like, full size rockers.

9" × 11" PAPER SHEETS

A/O Cabinet Paper (Brown)

	50/pk.	100/pk.
40-D...	☐ $17/pk.	☐ $31/pk.
50-D...	☐ 16/pk.	☐ 28/pk.
60-D...	☐ 15/pk.	☐ 26/pk.
80-D...	☐ 14/pk.	☐ 24/pk.
100-D...	☐ 13/pk.	☐ 22/pk.
120-D...	☐ 13/pk.	☐ 22/pk.
150-D...	☐ 13/pk.	☐ 22/pk.

Garnet Paper (Red)

	50/pk.	100/pk.
40-D...	☐ $17/pk.	☐ $31/pk.
50-D...	☐ 16/pk.	☐ 28/pk.
60-D...	☐ 15/pk.	☐ 26/pk.
80-D...	☐ 14/pk.	☐ 24/pk.
100-C...	☐ 13/pk.	☐ 22/pk.
120-C...	☐ 13/pk.	☐ 22/pk.
150-C...	☐ 13/pk.	☐ 22/pk.
180-A...	☐ 12/pk.	☐ 20/pk.
220-A...	☐ 12/pk.	☐ 20/pk.

No-Loading Finishing Paper (White)

	50/pk.	100/pk.
80-C...	☐ $16/pk.	☐ $28/pk.
100-C...	☐ 14/pk.	☐ 24/pk.
120-C...	☐ 14/pk.	☐ 24/pk.
150-C...	☐ 14/pk.	☐ 24/pk.
180-A...	☐ 11/pk.	☐ 19/pk.
220-A...	☐ 11/pk.	☐ 19/pk.
280-A...	☐ 11/pk.	☐ 19/pk.
320-A...	☐ 11/pk.	☐ 19/pk.
400-A...	☐ 11/pk.	☐ 19/pk.

Wet or Dry S/C Paper (Black)

	50/pk.	100/pk.
220-A...	☐ 15/pk.	☐ $25/pk.
320-A...	☐ 15/pk.	☐ 25/pk.
400-A...	☐ 15/pk.	☐ 25/pk.
600-A...	☐ 15/pk.	☐ 25/pk.

"SANDVIK"

- ☐ **HAND SCRAPER** $5.95
  6" × 2½" × .030 high quality steel cabinet scraper.
- ☐ **BELT CLEANING STICK** $6.95
  Makes your Belts, Discs, Sleeves last 3x as long.

Bench Top CUSHION CONTOUR SANDERS

Simply . . . chuck into your drill press or hand drill, inflate to desired hardness and you're ready to go. You receive 4 FREE asst. sleeves with purchase of sander!

- ☐ 2" x 4½" Sander w/⅜" shaft $34.95
- ☐ 1½" x 4½" Sander w/⅜" shaft 33.95
- ☐ Pk. of 5 Replace. Sleeves* 2" x 4½" 4.75
- ☐ Pk. of 5 Replace. Sleeves* 1½" x 4½" 4.25

*Choose from 80,100,120,150 grit.

SAND-O-FLEX UNIT

- ☐ Metal SAND-O-FLEX $18.00
- ☐ Plastic SAND-O-FLEX 14.95
- ☐ ⅜" Shank Adapter for Metal Sand-O-Flex .. 2.00
- ☐ Sand-O-Flex Abrasive Re-fills* 4.35

*Available in 80, 120, 180 grits.

BOWL SANDING KITS

Kit includes 1 each, 2" dia. and 3" dia. sanders with ¼" shaft. Sander conforms to the contour of the bowl.

- ☐ Kit comes with 3 flexible discs/sander. 1 each, Fine, Medium and Coarse $9.95
- ☐ 25 2" PSA FLEX DISCS 7.00
- ☐ 25 3" PSA FLEX DISCS 9.95

Choose from 80, 120, 180 & 220 grits. All 25 pcs. same grit.

MITCHELL'S ABRASIVE CORDS/TAPE

- ☐ Abr. Cord (.055 dia. × 25 yds., 150 grit) . . . $9.95
- ☐ Abr. Tape (9/32" × 25 yds., 150 grit) 10.95

Reaches those "near to impossible places" with ease!

☐ SEND FOR FREE CATALOG

USE THIS AD TO ORDER

FREE! WITH ANY ORDER OVER $50.00, CHOOSE A BELT CLEANING STICK OR A "Wooden Memories" PLAN.

☐ Belt Cleaning Stick ☐ Bill E. Goat ☐ Ole Grey Mare
☐ Bessie the Cow ☐ Beezer the Burro

- MONEY BACK GUARANTEE!
- SHOP OUR OUTLET STORE IN READING, PA. "The Outlet Capital of the World"
- PROMPT DELIVERY FROM STOCK!

Singley "Sleeveless" DRUM SANDERS

No pre-made sleeves to buy. Cut your 9 x 11 sandpaper, lock into drum and begin sanding.

- ☐ ¾" × 3" $13.95
- ☐ 1" × 3" 13.95
- ☐ 2" × 3" 15.95
- ☐ 2½" × 3" 16.95
- ☐ 3" × 3" 17.95

- ☐ 12 Piece Extra Length **SANDING DRUM KIT** $9.95
  Included are 1 Fine and 1 Coarse abrasive band for each size drum. ½", ¾", 1", 1½" dia. × 2" long.
- ☐ **RE-FILL PACK.**
  16 pc. asst., 1 Fine, 2 Medium, 1 Coarse per drum $5.95

INDUSTRIAL ABRASIVES CO.
643 N. 8th STREET
READING, PA 19612

For Fast Delivery Call Toll Free
***1-800-428-2222** (U.S.A.)*
***1-800-222-2292** (PA only)*

SHIPPING CHARGES – MIN. ORDER $25.00
Under $35 add $2.75. $35 or more add $4.25. PA residents add 6% sales tax.

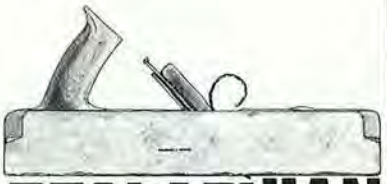
☐ MONEY ORDER ☐ MASTERCARD ☐ VISA ☐ CHECK

Acct. # _____ Exp. Date _____

Name _____ DAYTIME PHONE ( )
PLEASE PRINT

Street _____

City _____ State _____ Zip _____

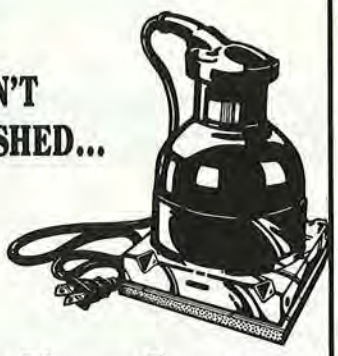


APPALACHIAN HARDWOODS

Beautiful grain and textures. Exceptionally workable. Our Appalachian hardwoods are locally grown, personally selected and kiln-dried . . . a guarantee of our measure of quality. ■ We handle 21 species of domestic hardwoods, softwoods and hard-to-find imports. ■ Send $2.00 for our catalogue today (refunded with order). All purchases at delivered prices. **EDLCO**

P.O. Box 5373-A, Asheville, N.C. 28813
For fast service, call 1-704-255-8765

WE AREN'T FINISHED...



UNTIL YOU'RE SATISFIED!

Since 1928, WOODCRAFT has been an industry leader in supplying quality products to woodworkers. Our services and guarantee are the best, our quality control program, second to none. Buying from WOODCRAFT gives you that kind of commitment . . . plus a whole lot more.

Why not give us a try, you won't be disappointed!

To receive a free copy of WOODCRAFT's tool catalog, please call toll free **1-800-225-1153** or write:

WOODCRAFT®
Box 4000, Dept. WBH79
41 Atlantic Avenue
Woburn, MA 01888

CALL TOLL FREE!!

Learn all about combination machine woodworking. Free color catalog and other material available. Tremendous Savings. Expands your workshop area by 90 percent.

TOOLMAX

Dealer Inquiries Welcome!
1-800-535-4788 USA
1-800-325-8330 CA

---

101 PATTERNS · GIFT & NOVELTY ·

This wonderful packet contains 101 FULL SIZE PATTERNS of Gifts, Novelties, Lawn Figures, Bird Houses, Shelves, Action Windmills, Alphabets, and many more things. Just trace and saw out. Plus "Make Money Jig Sawing". Only $7.00 Prepaid 1st Class for this big packet.

MASTERCRAFT PLANS WEST, DEPT. 75H
P.O. Box 625, Redmond, WA 98073

---

90 PATTERNS
LAWN ORNAMENTS · NOVELTIES

FULL SIZE patterns up to 20" high of Dutch boy and Girl, Dwarf, Penguin, Fishing Boy, Animals, Birds, Novelties and many other popular items. Easy to make and sell. Just trace, cut out and paint. Send $7 today for the LAWN ORNAMENT PACKET containing all 90 patterns. Prepaid, 1st Class.

MASTERCRAFT PLANS WEST, DEPT. 72H
P.O. Box 625, Redmond, WA 98073

WOODWORKERS
Save on Wood - Tools - Supplies!

OVER 4000 ITEMS

Send for New 1989 148 Page Money Saving CATALOG

OUR 59th Year

Finest Dimensioned HARDWOODS and Quality VENEERS
42 VARIETIES
1/64" to 4" Thickness

Fast service on choice kiln dried Wood and Veneers, Moldings, Trim, Hand and Power Tools, Lamp Parts, Upholstery Supplies, Clock Movements and Kits, Hard-to-Find Hardware, Finishing Materials, Books . . . over 4000 items in stock! Craftsman—Woodworker's best friend.

CRAFTSMAN WOOD SERVICE

Dept. WM-8, 1735 W. Cortland Ct., Addison, IL 60101
Please enclose $1.00 to help pay postage and handling.

WOOD TOY

- ★ Patterns
- ★ Parts
- ★ Wheels
- ★ Many New Patterns to Choose from.
- ★ Executive toys

SEND $1.00 FOR NEW CATALOG & RECEIVE COUPON FOR **FREE** WHEELS & AXLE PEGS.

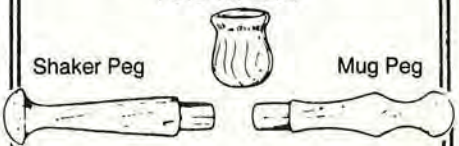
toys and joys

Box 628W Lynden, Wash. 98264

SHAKER PEGS
CANDLE CUPS
MUG PEGS

$17.95 per 100, prepaid.
Wide selection of other wood products.
Catalog $2.00 or free with order.

Benny's Woodworks
P.O. Box 840, Dept. WD16
Shelbyville, TN 37160
1-615-437-2295



National Carvers Museum

LEARN WOODCARVING AT HOME

Receive sample instructional pack on whittling and woodcarving. Includes copy of *Mallet* monthly magazine.

Send $2.00—deductible upon subscription payment to The National Carvers Museum, 14960 Woodcarver Road, P.O. Box 389, Monument, CO 80132.

(719) 481-4737

CS

STICKLER FOR DETAIL? At last, an exciting new line of REALISTIC Wood Block Models that you can build with your own scrap wood & dowels, and my easy to follow instructions.
TRACTOR RIGG - This 19" long, 10½" high Tractor is equipped with a detailed engine, drive-train, & rear axle assembly. Plan details include a pivoting hood, front steering, detailed leaf-springs, mirrors, ladders, step tank, flaps/guards, air cleaner, air tanks, and much more.
BACKHOE/LOADER - 25" plus. Challenging fun featuring over 35 easy to make pivoting joints, working hydraulic cylinders, detailed steering, removable roll cage, & lots of instrument gage, levers & lights.

Send check or money order in the above amount to:
Gatto Plan Supply, Box 1568, R.D. #1, Hamburg, PA 19526

BAND SAW OWNERS!

A NEW TOOL is now available so you can make or repair any length Band Saw Blade in minutes!

This patented tool was developed for use in our own shop and has proven itself with thousands of high quality, true running splices.

Our splicer enables any craftsman to make up any length blade from economical coil blade stock QUICKLY and EASILY. The resulting silver brazed joint normally outlasts the service life of the blade.

Three models are currently available:

1C-001 ¼" to ¾" Blades	$ 49.95 ppd
1C-002 ¼" to ⅜" Blades	49.95 ppd
1C-003 ⅜" to 1½" Blades	150.00 ppd

The tool comes complete with detailed instructions and supplies for approximately 100 splices.

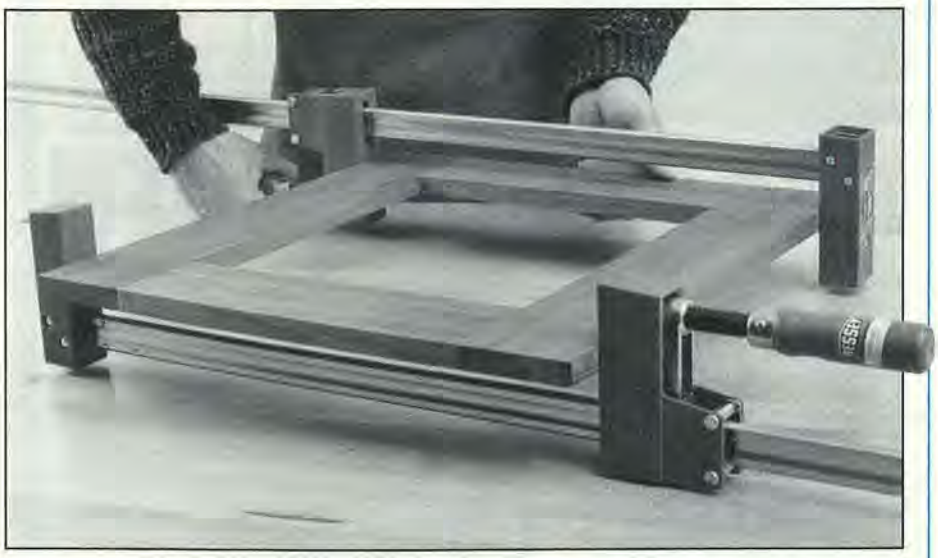
We also carry additional supplies and OLSON band saw stock at reasonable prices.

Send L.S.A.S.E. for FREE information to:
NEW MILFORD SPECIALTIES CO.
Dept. BH, P.O. Box 241
Botsford, CT 06404-0241
(203) 426-4276
DEALER INQUIRIES INVITED

A CLAMP LIKE NO OTHER: THE BESSEY K BODY

The German-made Bessey K Body clamp rates as the easiest and most effective tool for cabinet clamping that I've ever used. Why? The K Body combines the long opening of a bar clamp with the broad, parallel jaws of a handscrew, and has the rigidity of a pipe clamp. It possesses every convenience feature that I can ask for in a clamp.

The innovative design of these clamps starts in the movable jaw that always stays at a right angle to the bar, allowing you to use the clamp to square your work. Within the 1½×5″ jaw, a mechanism distributes the pressure equally across the clamped surface. A tough, nonmarring, and glue-resistant plastic covers the jaws. By flipping the handle up about ½″, you can quickly and positively move the tail jaw along the rigid, I-beam-shaped rail. Although premium-priced, you could save enough time in clamp adjustment and squaring to make owning two or four of these clamps a worthwhile investment.



—Tested by Jim Boelling, *WOOD*® magazine's project builder

Bessey K Body clamps, available with jaw openings from 12″ to 98″ for $39.95-$74 list (prices often discounted 10-25 percent). Call 800-828-1004 or write American Clamping Corporation, P.O. Box 399, Batavia, NY 14021.

Continued on page 84

DELTA

34-782	10" 3 HP UNISAW W/UNIFENCE	
34-783	10" 5 HP 3PH W/ UNIFENCE	
43-375	3 HP 1 PH HD/Shaper	
37-350	8" DJ-20 Joiner W/STAND	
31-730	6" Belt 12" Disc	
33-890	12" RADIAL ARM SAW	
40-601	18" VS SCROLL SAW	
33-990	10" RADIAL ARM SAW	
22-651	RC 33 13" PLANER	
50-179	3/4 HP DUST COLLECTOR	
50-180	1 HP DUST COLLECTOR	
50-181	2 HP DUST COLLECTOR	
34-985	1 PH STOCK FEEDER 110V	
34-994	1 PH STOCK FEEDER 230V	
34-995	3 PH STOCK FEEDER 230V	
33-150	8-1/4" SAW BUCK	
34-444	10" CONTR. SAW COMPLETE	
31-380	4" × 132" EDGE SANDER	
34-670	10" MOTORIZED SAW	
40-150	15" SCROLL SAW	
31-050	1" × 30" SANDER	
23-700	WET DRY GRINDER	
31-460	4" BELT 6" DISC	
17-900	16-1/2" DRILL PRESS	
34-897	DELTA UNIFENCE	

CALL FOR OUR LOW PRICES
YOU'LL BE GLAD YOU DID!

MILWAUKEE

0213-1	3/8" 9.6 V CORDLESS W/CASE	$145
0228-1	3/8" PISTOL DRILL	87
0234-1	1/2" MAGNUM DRILL	107
0375-1	3/8" CLOSE QUARTER DRILL	115
0379-1	1/2" CLOSE QUARTER DRILL	139
1676	HOLE HAWG W/CASE	224
5397-1	3/8" HAMMER DRILL KIT	139
6368	7-1/4" SAW W/CASE, CT BLADE RIP GUIDE	124
6508	VS SAWZALL W/CASE	126

FREUD

JS-100	PLATE JOINER W/CASE	$153
CC-900	DOOR SYSTEM SHAPER SET	278
94-100	DOOR SYSTEM ROUTER SET	158
FB-107	7 PC. FORSTNER BIT SET	49
FB-100	16 PC. FORSTNER BIT SET	149
DS-308	8" CT DADO SET	109

PORTER—CABLE

330	SPEED BLOC SANDER	$ 54
351	3 x 21 SANDER	118
352	3 x 21 SANDER W/BAG	118
360	3 x 24 SANDER W/BAG	176
361	3 x 24 SANDER	169
362	4 x 24 SANDER W/BAG	186
363	4 x 24 SANDER	181
617	7-1/4" SAW 13 AMP	104
315	7-1/4" SAW 13 AMP	104
314	4-1/2" TRIM SAW	124
690	1-1/2 HP ROUTER	114
9118	PORTA PLANE KIT	188
555	PLATE JOINER W/CASE	158
505	1/2 SHEET PAD SANDER	109

EMGLO

AM39-HC4V3/4 HP TWIN TANK		$268
AM78-HC4V1-1/2 HP TWIN TANK		298

BOSCH

1611	3 HP PLUNGE ROUTER	$189
1604	1-3/4 HP ROUTER	119
1604K	1-3/4 HP ROUTER KIT	159
1606	1-3/4 HP D-HANDLE ROUTER	145
1608	5.6 AMP. LAM. TRIMMER	79
1609K	3 IN 1 TRIMMER KIT	163
3270D	3 × 21 SANDER W/BAG	126
1272	3 × 24 SANDER	163
1272D	3 × 24 SANDER W/BAG	168
1273DVS	4 × 24 VARIABLE SPEED SANDER W/BAG	188
921VSRK	9.6V CORDLESS W/CLUTCH	137
91066	1/2" MIGHTY MIDGET VSR	108
1347	4-1/2" MINI GRINDER	84
1654	7-1/4" SAW W/CT BLADE	98
1581VS	TOP HANDLE JIG SAW	123
1632VSK	VS RECIP. SAW W/CASE	129

SENCO

SN-4	FRAMER 2"-3-1/4"	$477
SN-2	FRAMER 2"-3"	424
SFN-2	FINISH NAILER 1-1/2"-2-1/2"	385
SFN-1	FINISH NAILER 1"-2"	267
SKS	1/4" CROWN STAPLER 7/8"-1-1/2"	245
LS-2	PINNER 5/8" -1"	239
LS-4	PINNER 3/4" -1-1/4"	239

HITACHI

C-8FB	8-1/2" COMPOUND MITER SAW	$475
C-15FB	15" MITER SAW	369
TR-12	3HP PLUNGE ROUTER W/ACCES. VALUE AT $60	167
D-10DD	9.6V 2 SPEED CORDLESS	89
F-20A	3-1/4" HAND PLANER	96

MAKITA

LS1020	10" MITER SAW	$226
LS1430	14" MITER SAW	439
5402A	16-5/16" CIRC. SAW	329
5201NA	10-1/4" CIRC. SAW	299
5077B	7-1/4" HYPOID CIRC. SAW	139
5007NB	7-1/4" CIRC. SAW	114
5007NBA	7-1/4" CIRC. W/ELEC. BRAKE	124
1900BW	3-1/4" PLANER W/CASE	109
1100	3-1/4" PLANER HD W/CASE	193
2708W	8-1/4" TABLE SAW	244
3612BR	3 HP PLUNGE ROUTER	188
3601B	1-3/8 HP D-HANDLE ROUTER	126
9030	1-1/8" x 21" BELT SANDER	135
9900B	3" x 21" BELT SANDER W/BAG	139
9924B	3" x 24" BELT SANDER	139
9924DB	3" x 24" BELT SANDER W/BAG	145
9401	4" x 24" BELT SANDER W/BAG	162
JR3000V	RECIPRO SAW W/CASE	121
6510LVR	3/8" VSR DRILL	85
6093DW	3/8" CORDLESS KIT 2SP VSR	126
EXTRA	9.6 VOLT BATTER W/PURCHASE	26
B04510	4-3/8" x 4" FINISH SANDER	48

POWERMATIC
ARTISANS SERIES
CALL FOR LOW PRICES

POWERMATIC
Model 66 Table Saw

50" Biesemeyer Rip Fence, 3 HP
1 PH or 5 HP, 3 PH motor.

Model 180 18" Planer
7 1/2 HP, 3 PH or 5 HP, 1 PH motor
Knife Grinder, Sectional Roll and Chipbreaker.

ENTIRE LINE AVAILABLE
AT UNBELIEVABLE DISCOUNTS.
WHEN YOU CALL ASK FOR TOM
YOU HAVE THE OWNER,
NOT JUST AN ORDER TAKER.

TARHEEL FILING CO., INC.
CALL TOLL FREE 1-800-322-6641
LOCAL 919-967-6173

MAIL CHECK OR MONEY ORDER TO TARHEEL FILING
300 SOUTH ELLIOTT RD. CHAPEL HILL, N.C. 27514
NO COD'S PLEASE. ERRORS SUBJECT TO CORRECTION

PLEASE MENTION THIS AD WHEN YOU CALL!
ORDERS PLACED BY VISA, MASTERCARD, CASHIER CHECKS OR MONEY ORDERS WILL BE SHIPPED THE SAME DAY. ALLOW 2-3 WEEKS FOR PERSONAL OR COMPANY CHECKS.

FREE FREIGHT ON PORTABLES (CONT. U.S.A. O)
TELL US ABOUT OUR COMPETITORS PRICES.
WE TRY NOT TO BE UNDERSOLD.

This VET Did It – and YOU Can Do It Too!

"War injuries left me badly handicapped, but now I'm a financial success as a Locksmith, thanks to your training. Besides, the work is fascinating. If I can do it anybody can." — Glen Johnson, Larned, Kan.

Make Up to $26.00 an Hour — even while learning!

Train FAST at Home! Be a LOCKSMITH!

If you enjoy fixing things, you're a "natural" to make hundreds of EXTRA DOLLARS a year in the fascinating business of Locksmithing. Rising crime has increased demand for service a thousandfold. **Yet there's only one Locksmith for every 17,000 people!**

COLLECT CASH PROFITS ALMOST AT ONCE!

You're "in business" ready to make $10 to $26.00 an hour a few days after you begin Foley-Belsaw's shortcut training. Easy illustrated lessons complete with ALL practice equipment **PLUS**

- **ALL TOOLS YOURS TO KEEP**
- **KEY MACHINE YOURS TO KEEP**
- **EXPERT PERSONAL ASSISTANCE**
- **BUSINESS-BUILDING HELP**

enable you to get your share of this always-profitable business. Hundreds we've trained are doing it. So can YOU.

MAIL COUPON to discover how Locksmithing can keep the extra money coming in during spare time — or in your own full-time business. Ideal for retirement—good jobs, too.

FOLEY-BELSAW INSTITUTE
6301 Equitable Rd., Dept. 11641
Kansas City, MO. 64120

N. Hunt, Wilmington, Del.—"I make $50 a week extra."

R. Davis, St. Louis, Mo.—"I cleared $110 last Saturday."

Ed Boyle, Pittsburgh, Pa.—"My business going at top speed. I'm moving to bigger quarters."

FREE

MAIL THIS COUPON • NO SALESMAN WILL CALL

THIS DO-ALL PRO
KEY MACHINE YOURS TO KEEP!

FREE

Can add $50 to $100 a week to your income . . . and doesn't cost you a penny extra!

FOLEY-BELSAW INSTITUTE
6301 EQUITABLE RD., DEPT. 11641
KANSAS CITY, MO. 64120

FOLEY BELSAW

Rush **FREE** book, "Keys to your Future."

Name_____

Address_____

City_____ State_____ Zip_____

FREE!

78 full-color pages of exclusive, innovative tools and accessories for the woodworker, do-it-yourselfer and hobbyist, all guaranteed! Mail in coupon today.

( ) **Please rush my FREE catalog!**

Name _____

Address _____

City _____

State _____ Zip _____

Mail to: Leichtung Workshops, Dept. 108
4944 Commerce Pky. • Cleveland, OH 44128

ANYTIME ANYWHERE ANYWOOD

mold plane and edge

Professionals and hobbyists alike know the strengths of the W&H molder-planer. Superior US-made construction and quick two-minute cutter changes make it a snap to cut moldings and plane hardwoods. It's fast, easy, and super-smooth.

Our five-year warranty and free 30-day trial are your assurance that W&H goes the distance.

Mail this ad or call us toll-free today.
1-800-258-1380 in NH 603-654-6828

Williams & Hussey
Riverview Mill
P.O. Box 1149 Dept. 239GM
Wilton, NH 03086

W&H

YES! Send your free information kit today.

Name _____

Address _____

City _____ State ____ Zip ____

PRODUCTS THAT PERFORM

Continued from page 83

CARBIDE-TIPPED FORSTNER MAKES AGGRESSIVE CUT

Here's a bit that clock builders and other users of Forstner bits will love. Because of its sharp, sturdy carbide tips, I ran this bit about 100 rpm faster than other heat-treated steel Forstners with less burning along the walls of the hole. The 2⅛" bit I tested produced a hole with a flatter bottom and crisper corners than Forstner and similar multi-spurred bits that we've tested. The rim of the hole was just slightly more choppy than that produced by other bits.

Although the bit doesn't work for angle drilling, I found that I could bore holes in hardwoods such as hard maple, that would be difficult if not impossible with noncarbide-tipped Forstners over 2" in diameter. A final plus: The bits have ½"-diameter, 5½"-long shanks—a lot longer than other Forstners.

—Tested by Jim Downing, *WOOD* magazine's design editor

Carbide-tipped Forstner bits, available in sizes from ¾" to 3⅛" in prices from $25.30 to $59.90 each, plus shipping, from Woodworker's Supply of New Mexico, 5604 Alameda Place, NE, Albuquerque, NM 87113. Call 800-645-9292.

Continued on page 87

BACK ISSUE SALE

While supplies last, you can order the issues listed below. We will process orders on a first-come, first-serve basis, and when the magazines are gone, that's it. We cannot go back to press to print more. Sorry, *WOOD*® issues 1, 2, 3, 4, 5, and 11 are no longer available. Reserve your copies now!

WOOD MAGAZINE

☐ **#6:** Workbench, bud vase, pedestal stand, nest boxes, patio table, kid's boats, stools, tablesaw helpers, lathes, turning between centers.

☐ **#7:** Surface sander, coffee table, hall shelf, magazine rack, classic radio, doll furniture, carving tools, resawing jig, palm sanders.

☐ **#8:** Coat-tree, snack tray, jeep, desk set, charm bears, necklace, wall hanging, sled, mallets, scrollsaws, bending wood, router bits.

☐ **#9:** Dining table, clocks, jewelry box, multi-machine, Japanese handtools, furniture stripping, PEG, standards for seating and tables.

☐ **#10:** Parsons table, dining chair, redwood lantern, ceiling fixture, wren house, airplane, air compressors, plastic laminates, waterstones.

☐ **#12:** Scrollsaw, breakfast tray, tie rack, tow truck, sandpaper storage, parrot magnets, bunny bookends, power miter saws, old tools.

☐ **#13:** Cedar chest, kid's table and chairs, mug rack, kitchen cabinets, jewelry case, drum-sanding table, thickness planers, mortise-and-tenon.

☐ **#14:** Rocking horse, candy caddy, earrings, magazine rack, sanding block, folk toys, faceplate turning, turning tools, polymerized tung oil.

☐ **#15:** Quilt rack, kitchen canisters, spice cabinet, paper towel holder, puzzle block, bank, bandsaws, drying green wood, redwood signs.

☐ **#16:** Homemade lathe, train bookends, nightstand, rubber-band dragster, shop organizers, dust collectors, aniline dyes, wood vacations.

☐ **#17:** Outdoor settee, dining table, carving board, plane rack, drum-sander holder, template and pin routing, radial-arm saws.

☐ **#18:** Burl-topped coffee table, racing boat, taper jig, shelving system, turned paperweight, hand-held power planers, leg-rail joinery.

☐ **#19:** Cradle, bird feeder, kid's mirror, turned clock and vase, notepad holder, tool chest, power carvers, router dovetail jigs and techniques.

☐ **#20:** Mantel clock, wine rack, candle holder, money clip and key chain, doll stroller, hand mirror, bulldozer, buckles, scrollsaw techniques.

☐ **#21:** Barrister's bookcase, file cabinet, picture frame, letter opener, bandsawed boxes, turned spice jars, plunge routers, moldings.

☐ **#22:** Tall clock, onlay vase and table, blade-height gauge, teddy bear clock, swan necklace, clothes rack, combination machines.

☐ **#23:** Teak patio set, 2 stave-bowls, pantograph board, turned earrings, kid's playhouse, plate joiners, chair caning, using diamond stones.

☐ **#24:** Outdoor planters, kid's trucks, 3 cutting boards, homemade sawhorse, drill press ratings and techniques, wood mosaics.

☐ **#25:** Curio cabinet, glue caddy, kid's wheelbarrow, zoo carousel, rolling pin, safe/key keeper, oval marker, layout tools, framing.

☐ **#26:** Ornaments, yo-yo, wall clock, baja buggy, notepad holder, depth gauge, cribbage board, inlay tray and techniques, shop vacuums.

☐ **#27:** Country bench and cabinet, floor lamp, box-joint jig, recipe-card box, trucks, perfume decanter, relief carving, circular saws.

☐ **#28:** Trestle table, finish scraper, birdhouse, plant stand, stack-laminated bowls, scrollsaws, stationary belt sanders, cowboy boot carving.

☐ **#29:** Entertainment center, low-voltage lighting, train whistle, bud vase, napkin holder, parrot mobile, tops, replacement rip fences.

POWER TOOLS GUIDE 1989

☐ Tablesaws and blades, routers and bits, scrollsaws, cordless drill/drivers, lathes and turning tools, bandsaws.

WEEKEND WOODWORKING PROJECTS™

☐ **#1:** Helicopter toy, cutting board, decorative sleigh, spice rack, sconce, pocket-watch clock.

☐ **#2:** Rose jewelry box, arched-top clock, napkin rings, penguins, message center, jelly-bean machine.

☐ **#3:** Sportsman's coatrack, tractor, nameplate, decorative rocking horse, teddy bear bookshelf.

☐ **#4:** House sign, salt-and-pepper set, bird feeder, honeybee, dresser mirror, crayon caddy, towel ring.

☐ **#5:** Adirondack chair, footstool, bandsawed basket, plant stand, oak casserole server, acorn box.

☐ **#6:** Scandinavian candle holder, door harp, snack tray, Ferris wheel, bandsawed box, music box.

☐ **#7:** Bookcase, carved fruits, country basket, dresser-top kid's lamp, quilt hanger, handsaw bookends.

☐ **#8:** Armored-car bank, coaster set, whale stamp box, turned biscuit cutter, serving tray, table lamp.

☐ **#9:** Redwood bench, marble game, toy dining set, barn birdhouse, carousel, night-light clown.

☐ **#10:** Child's rocker, hourglass, antique clothes rack, wall plaque, planter basket, butter churn.

HERE'S HOW TO PLACE YOUR ORDER

1) Fill out the form at right, indicating which issues you want to purchase.

2) Send the order form to:

WOOD Back Issue Sale
1716 Locust Street
Des Moines, IA 50336

NOTE: Due to our limited supplies of these magazines, we'd prefer that you purchase your magazines by credit card (MasterCard, VISA). This allows us to charge you only for those magazines we have in stock at the time we receive your order. We also will accept your personal check, but this may increase the processing time on our end. Thanks for your cooperation on this. Allow 4-6 weeks for delivery.

Name _____

Address _____

City _____

State _____ Zip _____

☐ VISA ☐ MasterCard Exp. Date _____

Credit Card # _____

Signature _____

Single issues @ $4.95 ppd. Canadian residents, please add $1 per issue.

WOOD [6] [7] [8] [9] [10] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29]

WEEKEND [1] [2] [3] [4] [5] [6] [7] [8] [9] [10]

POWER TOOLS [89]

FREE CATALOG

Write today to start your FREE two-year subscription. Complete selection of all kinds of woodworking tools, competitive prices and fast, friendly service have made Woodworker's Supply of New Mexico the preferred source for professional woodworking tools and supplies.

☐ Please start my two-year subscription.

Name _____

Address _____

City _____ State ____ Zip _____

Woodworker's Supply
OF NEW MEXICO

5604 Alameda Place, NE • Dept. W07
Albuquerque, NM 87113 • 505-821-0500

1-800-645-9292

FACTORY DIRECT CLOCKS AND FURNITURE

Do-It-Yourself Kits or Assembled and Finished

- Grandfather Clocks, Mantel and Wall Clocks
- Cabinets, Chests, Tables, Chairs, Desks...and more!
- Solid 3/4" Black Walnut, Cherry, or Oak
- Heirloom Quality
- Solid Brass West German Movements and Dials
- Money Back Guarantee

SEND $1 FOR COLOR CATALOG

EMPEROR® CLOCK COMPANY

World's Largest Manufacturer of Grandfather Clock Kits
Dept. 3200, Emperor Industrial Park
Fairhope, Alabama 36532 • Phone 1-205-928-2316

I am interested in
☐ Do-It-Yourself Kits ☐ Finished Clocks ☐ Finished Furniture

Name _____

Street _____

City _____

State _____ Zip _____
(Please Print)

BUILD YOUR OWN QUEEN ANN FURNITURE

with our wide variety of stock legs

-OR-
JUST ASSEMBLE OUR COMPLETE KITS

SOLID CHERRY WALNUT MAHOGANY OAK

Matching coffee table available

FREE BROCHURE, DEPT. M7
(no minimum required)

Adams Wood Products, Inc.
974 Forest Drive • Morristown, TN 37814
Phone (615) 587-2942

SUBSCRIPTION PROBLEM?

We want to solve it to your complete satisfaction, and we want to do it fast. Please write to: Robert Austin, *Better Homes and Gardens® WOOD*, P.O. Box 10628, Des Moines, Iowa 50336.

You can help us by attaching your magazine label to this coupon, or printing your name and address as it appears on your label on a piece of paper and sending it along with your correspondence.

MOVING?

Simply attach the mailing label from this magazine and write in your new address below. (Please allow 4-8 weeks.)
Your New Address Goes Here

Name _____

Address _____ Apt. # _____

City _____

State _____ Zip _____

FOR FAST SERVICE...

...it is better to write us concerning your problem and attach your magazine label to this coupon, or print your name and address as it appears on your label on a piece of paper and send it along with your correspondence. Should you need to reach us quickly the following toll-free number is available:

1-800-678-2666

Better Homes and Gardens®
WOOD
P.O. Box 10628
Des Moines, Iowa 50336

Don't forget to include your old label!

DMT® Diamond Whetstone™

The answer to your sharpening needs

A few light strokes will sharpen knives and achieve perfect edges on all tools.

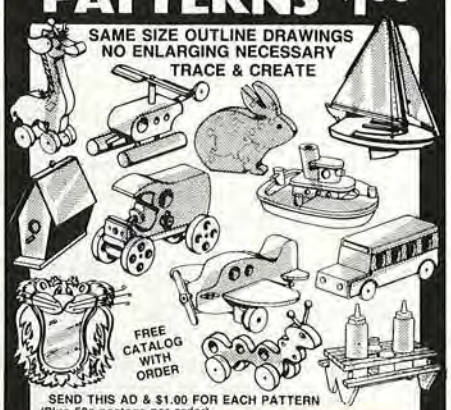
- Durable
- Fast
- Versatile
- Clean

Available at quality woodworking stores or

DIAMOND MACHINING TECHNOLOGY, INC.
85-WD Hayes Memorial Drive
Marlborough, MA 01752

PATTERNS $1.00

SAME SIZE OUTLINE DRAWINGS
NO ENLARGING NECESSARY
TRACE & CREATE



SEND THIS AD & $1.00 FOR EACH PATTERN
(Plus 50¢ postage per order)
DESIGN GROUP, Box 514-JJ, Miller Place, NY 11764

FREE WOODCARVER'S WISHBOOK

You'll find everything you need for decoy, bird and woodcarving in our new 48 page Wishbook including a complete line of special tools, cutouts, patterns, paints and supplies—all backed by our unconditional guarantee.

Send for your FREE catalogue today or **Call Toll Free 1-800-221-9474.**

P.C. English, Inc.

P.O. Box 380, Dept. W79, Thornburg, VA 22565

LEARN TO CARVE FOR LESS THAN $20.00 FOR A LIFETIME OF ENJOYMENT

WARREN TOOL CO. INC. Invites you to learn basic woodcarving our professional tools, are honed sharp for a safe, pleasureable carving experience.

SPECIAL INCLUDES:
#KB3 Packaged in Plastic Box (not shown)

—WITH—
WARREN INTERCHANGEABLE HANDLE

#KB3 KIT OF TOOLS

BOOK #23 "BASIC CARVING IN TEN LESSONS" WRITTEN by NATIONAL CARVERS MUSEUM. SPECIFICALLY FOR WARREN TOOL USERS (not shown).

Complete catalog of carving tools, and supplies (FREE with order) or send $1.00 for catalog only.

REQUEST: BASIC CARVING SPECIAL #1 — $19.95 PPD.

ALL TOOLS MADE IN U.S.A.
Offer expires 7-9-89

(C.O.D. AVAILABLE)
Send check or money order to:

WARREN TOOL CO. INC.
RHINEBECK, NY 12572

RT. 1 BOX 14-A
TEL. (914) 876-7817

Continued from page 84

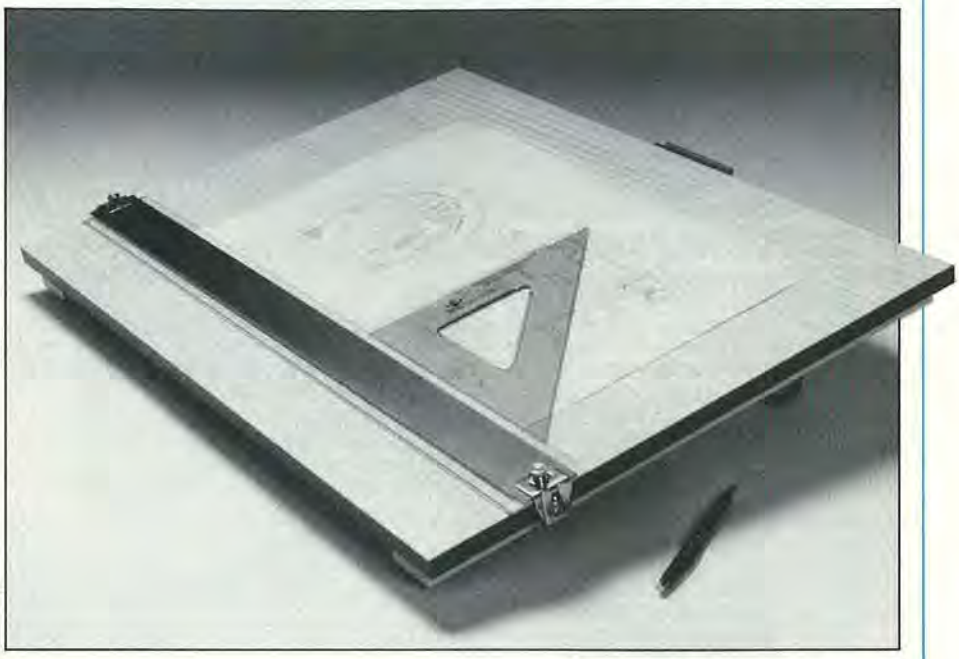
SET-UP-ANYWHERE DRAFTING BOARD

It's often easier to solve woodworking problems and come up with designs at the kitchen table than at the tablesaw. With nonslip feet and a track that grabs the side of any table, you can prop this drafting board on a flat surface almost as quickly as you can set it down—just the ticket for those of us without the space for a full-sized drafting table. After you're done drawing, the non-marring feet fold flat against the underside of the 18×24" board for easy storage.

The lacquered and waxed table provides a smooth surface over the warp-proof solid core. The straightedge moves up and down with relative ease. The hardwood-blade straightedge has clear acrylic on its top and bottom edges to enable you to view slightly above or below the line you're drawing.

—Tested by Marlen Kemmet, *WOOD* magazine's how-to editor

Parallel straightedge board with collapsible legs, $47.75 ppd. from The Art Store, Attention: Order Department, 600 Harding Road, Des Moines, IA 50312. Call 800-652-2225 for orders only.



Continued on page 88

Like Having a Lumberyard Right In Your Shop!

NOW! Plane, Mold and Sand with Infinitely Variable Power-Feed! (Choose from 12", 18" and 25" Models)

Just a twist of the dial gives you from 70 to over 1000 cuts per inch . . . you can sail through even the toughest oak at higher speeds, or slow down to surface stock that is virtually impossible on any other machine. Slower speeds turn out glass smooth molding . . . no sanding needed!

Woodmaster's Quick-Change Molding Head lets you create custom moldings from any stock. Choose from over 250 standard trim and picture frame patterns . . . or design your own!

Power-fed sanding speeds production and improves the quality of your work. No more waves or crossgrain scratches. Separate Sanding head installs in just minutes.

Now choose from three powerful models! Woodmaster introduces the first 18" and 25" Planer/Molders . . . with all the features that have made the 12" model the most versatile Planer/Molder on the market! Send for Free Facts today!

WOODMASTER TOOLS, INC., DEPT PW32 • 2908 Oak Street
KANSAS CITY, MO 64108 • Or Phone 1-800-538-4200 Ext. 2332

☐ **YES!** Please rush me your **FREE** Information Kit plus details on your **30-DAY FREE TRIAL GUARANTEE!**

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

BE YOUR OWN BOSS IN A BUSINESS WITH CLEAR-CUT PROFITS!

Gain Financial Independence by Operating Your Own Sharpening Business.

"A Sharp Outlook on the Future!"

The secret to starting a business that will really pay off is to offer a service that people in your area **need.** That's why a carbide sharpening business is such a low risk venture.

Carbide tools have become a common fixture in many businesses and home hobby shops. But it takes a sharpening shop with specialized equipment to keep them in top cutting condition! Whether you live in a rural community, or a big city, there are hundreds of carbide tools that need sharpening in your area.

Foley-Belsaw wants to work as your partner in this lucrative line of work. Whether you want to set up a full-time business, or just make a few extra dollars to supplement your income, we'll supply the equipment and training you need to make money from day one. All we ask from you is an entrepreneurial spirit and an up-front investment so small it quickly pays for itself!

Send for your Free Business Owner's Fact Kit!

Don't wait! Return the coupon below!

Foley-Belsaw Co., 6301 Equitable Rd., Dept.6069, Kansas City, MO 64120

☐ **YES!** I want to know more about how I can succeed at my own sharpening business. Please send me my **FREE** Business Owner's Fact Kit. (There's no obligation, and no salesman will call.)

Name

Address

City State Zip

( ) Area Code Phone Number

WOODWORKERS

SYSTI MATIC
PLANER COMBINATION

50 TOOTH
10" BUDKE BLADE

SPECIAL!
$39.95 ppd

FREE CATALOG SUBSCRIPTION WITH PURCHASE.

CATALOG ONLY.
2 year subscription (8 issues) $4.00.
Free $5.00 gift certificate with catalog order.

R. A. NESS & CO.
THE WOODWORKERS EMPORIUM
8888 N. MILWAUKEE AVE.
NILES, IL 60648
(312) 824-0565

TOOLS etc

PORTER+CABLE BISQUIT JOINER SALE

#555

BISQUIT JOINER w/steel case $169.95

#ADJF Adjustable fence for 555 $69.95

0-10-20 Splines (1000) $29.95
assorted box of bisquits add $5.00

#555A—#555 Bisquit Joiner with case and adjustable fence $229.95

HITACHI 3 H.P ROUTER KIT SALE

New Fine Adjuster Crank Knob!

$60 worth of *FREE* Accessories:
- Straight Guide • Roller Guide
- Micro Guide Holder
- Template Adapter • ¼" Collet
- ⅜" Collet • ½" Collet
- Carbide Bit • Template Guide

$189.95
Freight Prepaid

TR12K with Fine Adjuster $214.95

CNI Fine Adjustment Crank Only ... $29.95

New fine adjustment crank allows you to easily adjust router height in router table position or regular position.

TOOLS etc
1567 S. Harbor Blvd., Fullerton, CA 92632
ORDER TOLL FREE
(800) 327-6250

Continued from page 87

A POCKET-SIZED COMBINATION SQUARE

For the past 20 years I've kept two measuring instruments in the pocket of my shop coat at all times. First, an item many people carry with them, a tape measure. Second, a tool that's a little harder to find: a 4" combination square. The square's small size makes a snap of any job requiring angle checking because I only have to reach in my pocket for instant, portable precision.

You'll find this tool indispensable for setting a tablesaw blade to 90°, checking a miter angle, measuring the depth of a dado, marking layout lines for mortises and tenons, or many other shop tasks. No matter what the job, you'll appreciate the compactness of the tool and its high-quality craftmanship and precise markings. To the best of our knowledge, the L.S. Starrett Co. of Athol, Mass., a long-time manufacturer of machinest-quality tools, makes the only 4" combination square on the market.

The model I use has a cast-iron head and a satin chrome-finished blade that reads easily and resists corrosion. Although not inexpensive, few tools will find more service in your shop, save you more time, or outlive this one.

—Tested by Jim Boelling, *WOOD* magazine's project builder

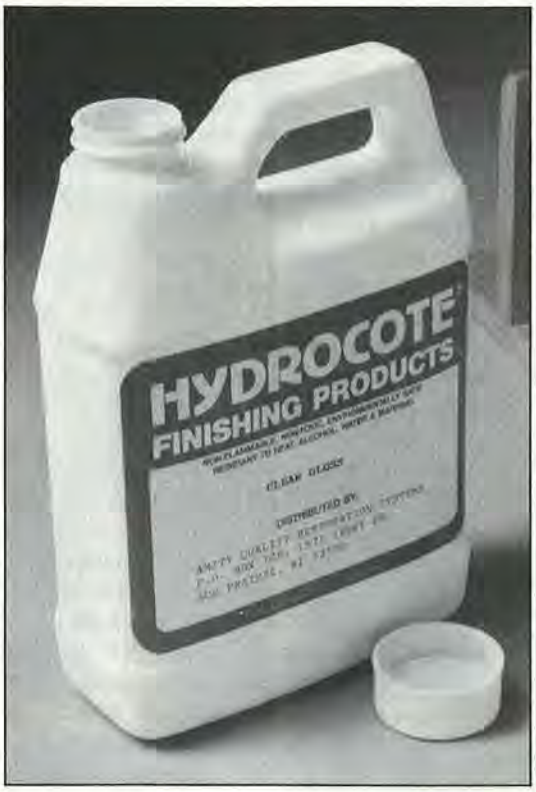
4" Starrett combination square, model C11H-4-4R, $28.50 ppd., from Industrial-Kurtz, Inc., 2150 Delaware Avenue, Des Moines, IA 50317. Call 515/266-4656.

Continued

A SAFE AND ODORLESS FINISH

Environmentalists take note: Hydrocote, a water-based lacquer, claims all the advantages of solvent-based finishes and more—it won't yellow—and none of their environment-damaging disadvantages, namely, the release of toxic fumes into the atmosphere. Unlike solvent-based finishes, Hydrocote imparts negligible odor, is nontoxic, won't burn, and cleans up with soap and water. Developed for use in the furniture industry, where the Environmental Protection Agency (EPA) has pressured furniture makers to reduce their emmission of hydrocarbons, the product has recently expanded to the home market.

You can brush or wipe the finish on, but I found air bubbles a problem with both methods. If you brush or wipe, Hydrocote's flow-out additive reduces bubbles by slowing the drying time, but spraying works best. The light-lilac color at application makes it easy to see where you've applied finish. Hydrocote drys quickly and leaves an exceptionally clear and flexible film.



—Tested by Steve Oswalt, a Des Moines woodworker and contributor to *WOOD* magazine

Hydrocote lacquer; about $20 for a 1-gallon container; about $50 for a 4-quart starter kit with instructional video; about $12 for a gallon of the flow-out additive. For exact prices, including shipping costs or a list of local distributors, contact Amity Quality Restoration Products, P.O. Box 148, Sun Prairie, WI 53590. Call 800-334-4259. Wisconsin residents call 608/837-8484.

Special Limited Offer - Expires Oct. 31, 1989

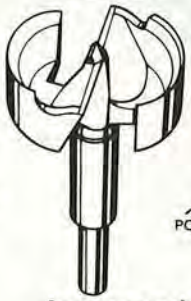
FORSTNER BITS: WHAT THEY CAN DO FOR YOU WHY OURS ARE BEST AND LEAST EXPENSIVE

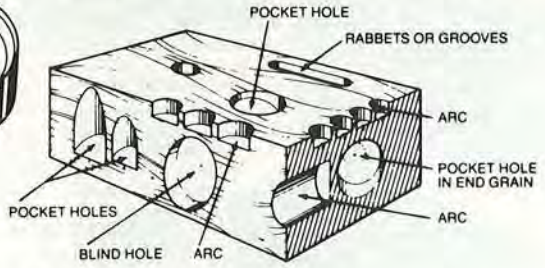
Forstners, the only wood bits that can:

- Bore any arc of a circle at any angle
- Make entry holes in veneer, end grain, and knots
- Leave glass smooth walls and a flat bottom hole

Pros use them:

- For starting rabbets or grooves
- To make pocket holes to attach rails to tops, and rods, spindles and stretchers to legs
- To make blind holes for plugs and
- Through holes for locks





Best Because:

- Machined from high-carbon alloy steel
- Precision ground cutting edges, lifters and brads
- Hardened to HRC 50
- Mirror polished head to maintain splinter free entry holes

Inexpensive Because:

- Manufactured in China where the US dollar is still king
- Imported directly by us
- Our sincere desire to bring back sensible prices for woodworking tools

SPECIAL INTRODUCTORY OFFERS

BUY A 7-pc FORSTNER BIT SET (1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1") and we will give you FREE a 7-pc Brad Point Drill Set, a $12.00 value.
Ship./Hndl. $4.50
ORDER #10-1426 only $34.99

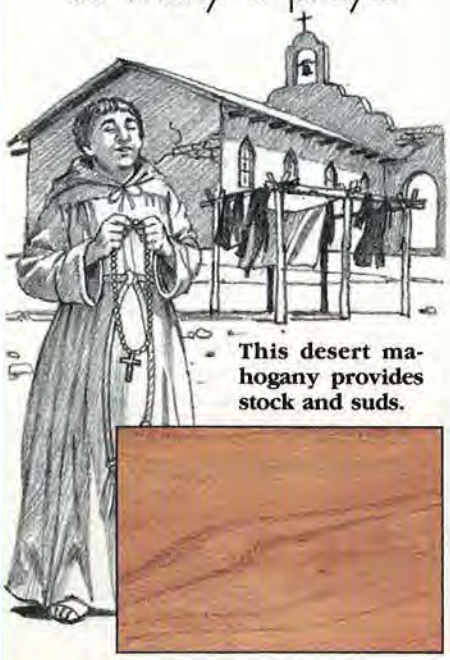
BUY A 16-pc FORSTNER BIT SET (1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/8, 1-1/4, 1-3/8, 1-1/2, 1-5/8, 1-3/4, 1-7/8, 2, 2-1/8") and we will give you FREE a 25-pc Brad Point Drill Set in Metal Index, a $29.95 value. Ship./Hndl. $9.50
ORDER #10-1441 only $124.99

All Forstner Bits fit 3/8" chucks and are 3-5/8" overall. FOR A FREE PRICE LIST OF INDIVIDUAL SIZES, SEND NAME AND ADDRESS TO: P.O. BOX 964, RIDGEFIELD, CT 06877

CALL TOLL FREE: 800-447-7770 • VISA / MC / AMEX
Dollar Trading Corp. (Est. 1953) • Dept.WM07C • P.O. BOX 8433 • GRAND RAPIDS, MI 49518
MI and CT Buyers, Please Add Sales Tax • 90 Day, Hassle-Free, Money Back Guarantee

CHINABERRY

The answer to many a prayer



This desert mahogany provides stock and suds.

Seldom has a transplant been as happy as the chinaberry tree. Introduced to the sundrenched American Southwest and Mexico centuries ago for shade, the chinaberry embraced its arid new home and flourished. This cousin of mahogany from China relished the hot, dry climate and responded to it with rapid growth in even the worst of soil.

Native Americans, Mexicans, and new settlers in the barren land welcomed the new tree. Indeed, people cooled off beneath its branches, but didn't hesitate to fell it for wood they worked into rustic furniture and tool handles, and burned for fuel. Still, the chinaberry offered them much, much more.

When denied the luxury of real soap or its ingredients, the resourceful sought out the generous chinaberry. By mashing its large, yellow, berrylike fruits and adding them to water, they whipped up a cleansing bath for grimy clothes. For this, chinaberry came to be called "soap tree."

Should washday arouse an appetite, the chinaberry was there again. Although poisonous to humans, chinaberry fruits contain seeds that will catch fish, but in a most unlikely way. Crushed with a mortar and pestle, then thrown into a pool or pond, the seeds so stupify fish that they float to the top for easy catching with hands or net.

Could the beneficent chinaberry be the answer to a prayer? Maybe. For sure, it's the stuff from which prayers are made! The same bone-hard, reddish-brown seeds that bowl over fish served the missionary friars of that part of the continent as rosary beads. With frequent use, the seeds took on a lustrous polish, as if responding to the spiritual purpose.

Photograph: Bob Calmer
Illustration: Jim Stevenson

New "Quad-Drive" DRUM SANDER
with Infinitely Variable Power Feed!

At last! A complete power-feed Drum Sander at an affordable price! Choose from 26" and 38" models. SAVES TIME . . . IMPROVES RESULTS. Use this high-tolerance machine for light dimensioning as well as the finest finish work. Now you can add new beauty to each woodworking project . . . save hours of tedious hand sanding! In a matter of seconds you can produce a satin-smooth finish impossible to duplicate with hand methods or hand-held power sanders . . . no more low spots, waves or cross-grain marks! Check these advantages . . .

FREE FACTS!
Send for complete facts on how you can try this low-cost tool in your own shop for one full month without risk. See how the sander can dimension and finish-sand cabinet pieces, resawn stock, paneling, toys, tabletops, knees, burls, crotches and much, much more! You'll soon find it's one of the most valuable tools in your shop! Made in U.S.A. Easy Terms.

Call Toll Free 1(800)538-4200, Ext. 2432

FREE FACTS

☐ **YES!** Please rush my **FREE INFORMATION KIT** and details on your 30-Day Free Trial Guarantee.

Woodmaster Tools Dept. RW32
2908 Oak, Kansas City, MO 64108

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

NEW INFINITELY VARIABLE FEED RATE gives you total control in any sanding situation!

EXCLUSIVE QUAD-DRIVE FEED SYSTEM four power-feed rollers for maximum traction. Eliminates oversanding at first and last few inches of a board!

NEW FELT-BACKED ABRASIVE mounts in just seconds to Velcro covered drum. The harder you sand, the tighter it stays! Eliminates stretching . . . allows fast removal and re-use!

WOODWORKER'S PLANS & PARTS

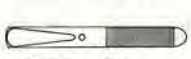
HEIRLOOM ROCKER
This great rocker retails for over $300.00
Build our classic rocking horse and create a family heirloom which will delight the children in your family for generations to come.
Accessories available See our catalog
Size: 35" x 58"
Order Plan 400 Only $10.25

DOOR HARP PLANS AND PARTS

Harp Plans $4.00 each or buy all four $12.50
Plans include stencil design
New design No fret bar

Hardware Kit (no plywood) One harp 3.50 Four harps 12.50

Harp Wire 10¢ per ft. 25' for 2.50 ¼ lb. for 12.00 1 lb. 34.00



Tuning Pins 30¢ each 50 for 11.00 100 for 18.00 500 for 75.00

Tuning Pin Wrench 3.50 or FREE if harp order totals 35.00

Door Harp Plywood 11½" x 11½" 1.00 ea. 10 for 9.00 30 for 24.00

Low, low prices on wood parts

Smooth Maple Wood Wheels Eight Sizes

WT-3/4"	$4.50/100
WT-1"	$5.00/100
WT-1-1/4"	$7.00/100
WT-1-1/2"	$10.00/100
WT-1-3/4"	$15.00/100
WT-2"	$18.00/100
WT-2-1/4"	$5.00/20
WT-2-1/2"	$7.00/20

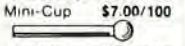
Axle Pegs
AP-1 fits 1" to 2" $4.00/100

Full Round Wood Balls Four Sizes

BA-3/4"	$8.00/100
BA-1"	$10.00/100
BA-1-1/2"	25¢each
BA-2"	60¢each

Shaker Peg Candle Cup

Reg Peg	$16.00/100
Mini-Peg	$6.00/100
Candle Cup	$16.00/100
Mini-Cup	$7.00/100



Tie Peg $6.00/100

Shipping $2.50. NY Res. add tax. Catalog $1.00 FREE with order.
We accept VISA & MASTERCARD. Phone (516) 462-6228

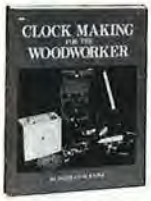
Armor Products Box 445-L East Northport, NY 11731

Compare this offer with any other book club for Price • Quality • Benefits • Selection!

An absolutely no-risk guarantee.

1122P $14.95

3079 $23.95



1648P $14.95

1838P $10.95

2602P $17.95

1967P $11.95

3074 $21.95

2806P $15.95

2878P $14.95

2816 $21.95

2994P $12.95

3058 $24.95
Counts as 2

2863 $24.95

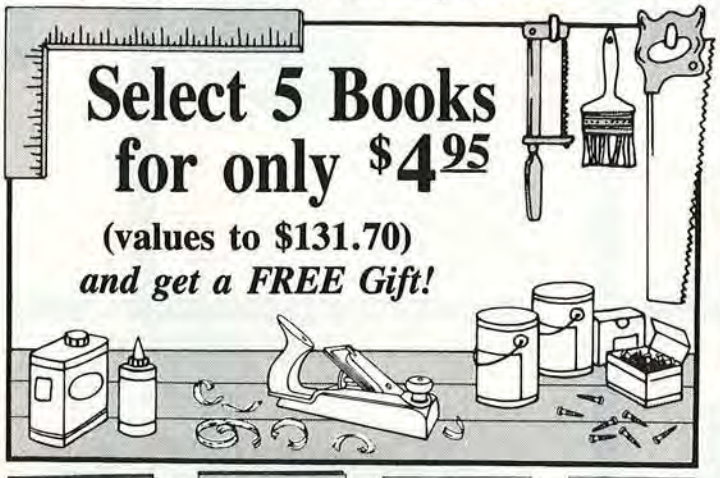
3014 $21.95

(Publishers' Prices Shown)
All books are hardcover unless number is followed by a "P" for paperback.

Select 5 Books for only $4.95

(values to $131.70)

and get a FREE Gift!



2884P $14.95

2984 $21.95

2871P $10.95

3056 $25.95

Membership Benefits • **Big Savings.** In addition to this introductory offer, you keep saving substantially with members' prices of up to 50% off the publishers' prices. • **Bonus Books.** Starting immediately, you will be eligible for our Bonus Book Plan, with savings of up to 80% off publishers' prices. • **Club News Bulletins.** 14 times per year you will receive the Book Club News, describing all the current selections—mains, alternates, extras—plus bonus offers and special sales, with scores of titles to choose from. • **Automatic Order.** If you want the Main Selection, do nothing and it will be sent to you automatically. If you prefer another selection, or no book at all, simply indicate your choice on the reply form provided. As a member, you agree to purchase at least 3 books within the next 2 years and may resign at any time thereafter. • **Ironclad No-Risk Guarantee.** If not satisfied with your books, return them within 10 days without obligation! • **Exceptional Quality.** All books are quality publishers' editions especially selected by our Editorial Board.

FREE when you join!

15 Practical Woodworking Projects From Percy Blandford

Fascinating projects from master craftsman Percy Blandford include toys, furniture, a go-cart, and more!

a $6.95 value!

HOW-TO BOOK CLUB
Blue Ridge Summit, PA 17294-0800

Please accept my membership in the How-To Book Club and send the 5 volumes listed below, *plus* my FREE copy of *15 Practical Woodworking Projects From Percy Blandford* (3124P), billing me $4.95 plus shipping and handling charges. If not satisfied, I may return the books within ten days without obligation and have my membership cancelled. I agree to purchase at least 3 books at regular Club prices (plus shipping/handling) during the next 2 years and may resign any time thereafter.

Name _____

Address _____

City _____

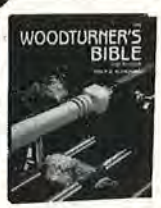
State _____ Zip _____ Phone _____

Signature _____

Valid for new members only. Foreign applicants will receive special ordering instructions. Canada *must* remit in U.S. currency. This order subject to acceptance by the How-To Book Club.

WD789

2774P $14.95



1954P $16.95

3064 $21.95

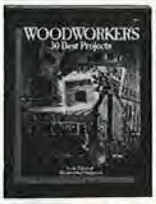
1668P $15.95

1530P $15.95

2629 $24.95

2788P $9.95

1381P $15.95



3021 $23.95

2789P $15.95

2944 $24.95

2811P $17.95

3053 $19.95

1971P $12.95

© 1989
HOW-TO BOOK CLUB
Blue Ridge Summit,
PA 17294-0800

DUST COLLECTOR
UFO-90.....1HP Motor
UFO-101.....2HP Motor
UFO-102B....3HP Motor
DC-31.....1HP Motor...$159.00

DRUM SANDER
SK-15DS....$1545.00
15" sanding width, 3 HP
SK-20DS....$1875.00
20" sanding width, 3 HP
SK-25DS....$2355.00
25" sanding width, 5 HP
Two different grit precision contact drums.
Dust chute. 1/4 HP feeding motor.

STROKE BELT SANDER
SK-1500BS.....$1095.00
60"x21-1/4" sliding table
6" sanding belt width 2 HP
SK-2100BS.....$1599.00
80" x 21-1/4 sliding table
6" sanding belt width 3 HP

TRUE VALUE &TRUE QUALITY

JOINTER
JT-0012.....$1595.00
12" planing width
13-3/4"'x72" precision ground cast iron table
3 HP motor

LOBO

LOBO POWER TOOLS

9034 Bermudez Street,Pico Rivera,CA
90660, USA (818) 350-1096

Unit 3, 2375 Alpha Ave, Burnaby, B.C.
Canada V5C 5L2 (604) 299-0911
All F.O.B. Pico Rivera,CA

Write or call now
FREE BROCHURE
Or $2 Catalog Refunded with Order
One year free parts warranty
We specialize in customer satisfaction

MOVING SALE !

12" PORTABLE PLANER
WP-3012.....$379.00
Stand (Optional)
WP-12ST.....$ 39.00
FREE SHiPPING

BAND SAW
SK-20BS...$1195.00
20" cutting width
2 HP motor
cast aluminum wheel

12" TILTING ARBOR TABLE SAW
HTS-0012A $825.00
With cast aluminum guide rail.
3 HP motor 2 Belt drive

10" TILTING ARBOR TABLE SAW
TS-1010.....$1155.00
With cast aluminum guide rail.
3 HP 3 belt drive

POWER FEEDER
SK-303FD....$659.00
1 HP, 3 phrases
SK-301FD...$699.00
1 HP, 1 phrases
SK-321FD...$390.00
1/4 HP, 1 phrases

WIDE BELT SANDER
A-2548....$5535.00
24" working width
A-3760....$8685.00
36" working width
3 precision balanced contact drum. Rugged heavy duty metal construction. Full power motors drive sanding and auto infeed smoothly. Computer control adjust table.

SPINDLE SHAPER
SK-30SPA.....$799.00
1" and 3/4" Spindle
28" x 30" table
forward and reverse
Springhold down, 3 HP
SK-35ST.....$199.00
Sliding Table

(ADVERTISEMENT)

The Discerning Craftsman CATALOG SHOP

1. 212-page GARRETT WADE catalog with over 2500 selections of the finest tools and finishes. Also valuable reference material on care and use of tools. This premium group of products includes hand tools, books, finishes, stones, benches and turning tools. Power tools and accessories featuring INCA woodworking machinery. $4.00.

2. Executive wood toys! If you want more in the line of wood toys, let Toys and Joys offer you a line of detailed patterns for classic cars, trucks, trains, etc. We also carry a complete line of wood toy parts. Ask about our deluxe spoke wheels. TOYS AND JOYS catalog $1.00.

3. SEYCO SALES catalog offers durable, transparent plastic letter guides for scroll sawing, routing, carving sandblasting, poster layout and woodburning. Catalog also offers Excalibur scroll saws and accessories. Foredom woodcarvers kits & the Mill Route. Catalog $1.00.

4. NCM's mail order catalog. Twelve pages of tools, books and accessories to meet the needs of every woodcarver. Send $2.00 (refundable on first order) to The National Carvers Museum.

5. 64 pages of project plans for beginning and intermediate woodworkers. We specialize in hard-to-find parts others just don't have. Make door harps, toys, jewelry boxes, country accessories, etc. MEISEL HARDWARE SPECIALTIES. CATALOG $1.00.

6. WOODWORKER'S SUPPLY OF NEW MEXICO offers more than just the usual line of woodworking tools. You'll find many unique and innovative tools that you won't see anywhere else. Send today to start your free 2-year subscription to our full-color catalog.

7. Discover a world of musical instrument projects designed for home assembly. Kits, plans and supplies for making guitars, banjos, harps, dulcimers, violins, psalteries and more – the finest designs available. Send $1.00 for Musicmakers Keep Book. ST. CROIX KITS.

8. The complete woodworking shop. Five tools, power, quick set-up, compactness, versatility, and affordability, at the turn of a knob. TOOLMAX gives every project that extra added "Edge of Excellence." Catalog $3.00.

K5
WOOD MACHINING CENTER
VIDEO DEMONSTRATION

9. See the K-5 in action in this video demonstration. You'll see each operation – Table Saw, Surface Planer, Shaper and Slot Mortisier – in detail as well as how easy it is to convert from one operation to another. Includes free set of woodworking plans for a writing desk and a $25.00 gift certificate toward accessories with purchase of a K5 from Farris Machinery. K5 Video Demo $14.95.

10. 24-page catalog from one of America's larger woodworking tool suppliers – quite different than the first flyer Total Shop sent out back in 1977. This catalog is the best ever and will inform you on the finest woodworking tools available. TOTAL SHOP catalog free.

11. Patterns by Design Group – Toys, Games, Puzzles, Birdhouses, Rocking Horse, Cars, Trucks, and MORE! All patterns are "Same Size" Blueprints. No enlarging necessary. Simply trace and create. Money back guarantee. DESIGN GROUP's fully illustrated catalog $1.00.

12. HAMMERMARK ASSOCIATES 20-page catalog features 33 Country Furniture plans, plus products for workshoppers. Our weekend workshop plans can be completed in a weekend or two. Our classic plans are a bit more extensive. Catalog $1.00 (deducted from first order).

13. Woodworking tools from WOODCRAFT SUPPLY CORPORATION. Since 1928, we have searched the world for tools you don't just buy, but adopt; tools made by craftsmen for craftsmen, classics of lifetime quality for people who love to work with their hands. Free catalog.

14. HORTON BRASSES' catalog shows over 500 items of authentic reproduction hardware from the 1700s and on into this century. These are superior reproductions of Chippendale, Hepplewhite, Queen Anne, Sheraton, Victorian and early 1900s brass furniture hardware. Catalog $3.00.

FOLEY-BELSAW INSTITUTE OF WOODWORKING

15. FOLEY-BELSAW's new Woodworking Correspondence Course for everyone wishing to learn woodworking skills. Create over 20 projects using professional plans & tools like a table saw, router & more ... all included with course. Money-back guarantee. Free 30-day trial. Free info.

COUNTRY & FOLK ART PATTERNS

16. In THE WINFIELD COLLECTION, we offer hundreds of country woodcraft designs from old-fashioned St. Nicks, to popular folkart, shaker peg racks, country "dawgs" and felines, household accessories and more. Easy to follow, full-size patterns. Catalog $2.00.

17. Woodworking Tools–Freud provides the finest in hand tools, carbide cutting tools, and hand held power tools. From drills and sanders to carbide saw blades and router bits. FREUD catalog $1.00

18. For the first time ever, BLACK & DECKER is offering its line of Elu woodworking tools in the U.S. – sanders, routers, a power planer and a jointer / spliner – all with a wide range of accessories. ELU WOODWORKING TOOLS by BLACK & DECKER information $1.00.

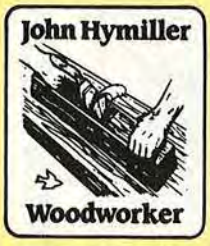
19. 330 Early American Home Plans – New 304-page book features Gambrel, Salt Box, Cape Cod, Garrison, Southern Colonial & Farmhouse adaptations. Historical notes include informative guide to Early American styles. One, 1½ and two-story houses highlight country kitchens, breakfast, formal dining & gathering rooms. Also, libraries, lounges, sunspaces, clutter rooms. Blueprints available. $9.95 ppd. HOME PLANNERS, INC.

20. EBAC LUMBER DRYERS offers a full range of wood drying equipment. These systems produce fine quality lumber and are extremely cost efficient to operate. Send for free catalog describing product line and process of drying wood.

BENNY'S WOODWORKS

Woodworking Supplies

21. Assorted woodworking supplies including dowel pins, candle cups, buttons, needle boxes, wooden fruit, napkin rings, balls, salt & pepper shakers, toy wheels, and many more wood and metal accessories. Write for our free catalog. BENNY'S WOODWORKS.



22. European hand tools and machinery. Tired of buying tools, then finding out they're not what you need? Free advisory service to customers. Catalog $5.00. 3rd generation master craftsman. JOHN HYMILLER, Woodworker.

Cascade Precision Tool Co.

23. CASCADE TOOL COMPANY's new 12-page catalog featuring over 300 industrial $ quality carbide tipped router bits and shaper cutters. Best prices are available. The low overhead, factory direct way making our knives the best buy in the industry. Catalog $1.00.

24. PENN STATE INDUSTRIES catalog of woodworking machines offers discount pricing on machines plus a full line of accessories. The catalog is available free of charge and includes a special promotional $10.00 discount coupon on the purchase of any machine.

25. STEVE H. WALL LUMBER CO. provides 15 varieties of hardwood lumber and several lines of woodworking machinery. Send $1.00 for catalog.

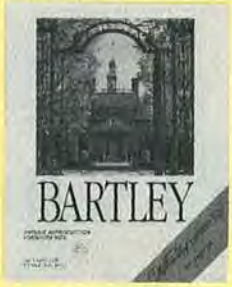
26. "Innovation" sets Leichtung-Workshops apart from the rest! You'll find tools and accessories for the serious woodworker and do-it-yourselfer, many our exclusive designs! 400+ items in our FREE 78-page color catalog! LEICHTUNG-WORKSHOPS.

27. 48-page catalog is filled with tools and supplies for decoy and wood carvers and wood turners including precision grinding tools, sharpening stones, Foredam tools, Fire Brush burners, pneumatic sanders, glass eyes, pewter feet and patterns. P.C. ENGLISH, INC. Free.

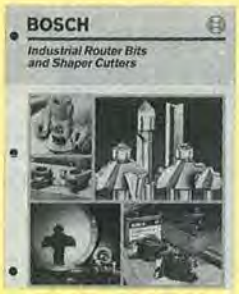
28. Wagner Safe-T-Planer. Absolutely Safe! Impossible to grab or kick back. Planes, tenons, rabbets make raised panels, rossetts, frames and more. Use on your drill press, $35.00; on your radial arm saw, $40.00. State make, model, shaft diameter. $2.50 S&H. Guaranteed. Free literature.

29. Variable feed rate planers, drum sanders and stroke sanders from Woodmaster tools. Free information on 12", 18" and 25" planers ... 26" and 38" drum sanders. Facts on 30-day free trial. WOODMASTER TOOLS. Free.

30. GRIZZLY IMPORTS, INC. is a unique mail order company that specializes in wood and metal working machinery. Their full color catalog is loaded with great deals! Free Catalog.



31. THE BARTLEY COLLECTION, LTD. is the original maker of 18th century antique reproductions furniture and kits. There is a wide selection in Queen Anne, Chippendale and Shaker pieces, all available in either solid Honduras mahogany or Pennsylvania cherry.. Catalog includes prices and finishing charts. Send $5.00 for a one-year subscription (10 copies).

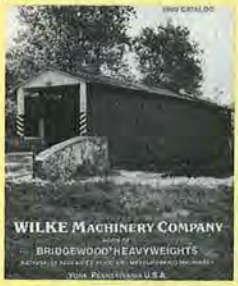


32. Selection of over 220 profiles: Bosch Router Bit catalog is woodcrafters' best source of fine cutting tools. Also includes over 60 shaper cutters, including stile and rail sets. Most popular, as well as hard-to-find carbide-tipped and high-speed steel designs. Available now. $1.00. BOSCH POWER TOOL CORPORATION.

33. Stickler for detail? At last an exciting new line of REALISTIC Wood Block Models that you can build with your own scrap wood & dowels, and easy to follow instructions. Highly detailed plans of carts, trucks, vans, trailers and earth moving equipment. Brochure 75¢. GATTO PLAN SUPPLY.

34. Free catalog! Largest selection of woodworking tools and supplies in the Southwest. We offer much more than just the usual group of tools. Write today to get your copy of our free catalog and future preferred customer specials. WILLIAMS TOOL SALES.

35. Free Transpower Machinery and Cutter Catalog – Save by ordering planers, shapers, table saws, router bits, shaper cutters and many other fine woodworking machines from our free catalog. TCM INDUSTRIES, INC.



36. WILKE MACHINERY COMPANY offers new 52-page color catalog complete with photos and specifications of the entire line of BRIDGEWOOD brand woodworking machinery. BRIDGEWOOD offers machinery for the serious home woodworker as well as the professional and industrial shops. $1.00.

EDUCATIONAL LUMBER CO., INC.

37. EDUCATIONAL LUMBER COMPANY offers you a new catalog of the finest quality domestic and exotic species available. Including turning stock, shorts, veneer, hardwoods and softwoods. This catalog contains over 21 species. The catalog itself is an educational experience! $2.00.

38. Catalog shows moisture meters for wood to monitor air or kiln drying. Info about problems: shrinking, warping, cracking that can ruin beautiful wooden pieces. LIGNOMAT offers a small inexpensive instrument called Mini-Ligno to check moisture in wood. Catalog free.

39. Precise wide surface sanding at an affordable price is now available. You select the components to fit your budget and your needs. The Performax S/T Sander attaches to radial saw or the new Pro Stand. Manual feed or optional Power Feed Conveyor unit can be added. Free brochure. PERFORMAX PRODUCTS, INC.

40. RBIndustries offers 6 differnt models of the Hawk Family of Precision Scroll Saws. American-made Quality at Affordable Prices with patented features such as Camover tensioning, blade suspension system, and many other features make the RBI Hawk the easiest and most versatile scroll saw on the market today! Send for your free catalog now! RBIndustries.

1989
TOOLS ON SALE
CALL TOLL FREE 1-800-328-0457
America's Lowest Tool Prices... PLUS PRE-PAID FREIGHT!
A Division of SEVEN CORNERS ACE HDWE., INC.

41. "Tools On Sale" offers a wide variety of tools for the professional or the do-it-yourself enthusiast. It is packed with some of the most respected names in the industry: Makita, Milwaukee, Skil, B&D, Ryobi, Delta, Bosch and many more. We are noted for our fast service and our friendly, knowledgeable sales people. Free catalog. SEVEN CORNERS ACE HARDWARE.

42. McFeely Hardwoods' 32-page spring/summer catalog features the incredible square drive screw in steel, solid brass and stainless steel, router bits, veneers and veneer tape, and other woodworking specialties. McFEELY HARDWOODS AND LUMBER. CATALOG 75¢.

43. 192-page catalog from VAN DYKES's is packed with restoration material for woodworking hardwoods, veneer, molding, carvings, turnings, tools, finishes and much more! Reproduction brass hardware, wood component pieces, oil lamp parts, caning material. $1.00

THE SOURCE

44. Cabinetmakers' tools and supplies. New catalog of fine hand and power tools for cabinet makers and serious woodworkers. Also features hardware, supplies and cutting tools. A must reference for the woodworker. THE SOURCE catalog. $2.00.

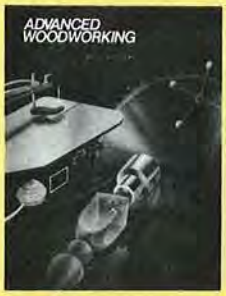
45. LOBO POWER TOOLS – Our lower prices make our fine woodworking machines more affordable for you. We sell a complete line of bandsaws, jointers, planers, drum sanders, shapers, and much much more. All of our machines come with a 1-year warranty. $2.00

MLCS

46. Router owners – large discounts. High quality router bits, router speed controller, and the Merle Adjustable Corner Clamp are our only business. Prices 50%-70% lower than elsewhere. Value, quality, and prompt service guaranteed! MLCS Free Information Kit.

47. Fine Woodworking "Videolog" – Send for your 50-minute videotape sampling of the world's most in-depth woodworking videos. Includes tips on finishing, turning, furniture repair, workshop techniques and other related subjects. Available VHS or Beta. $5 – good toward your first order. Order today! THE TAUNTON PRESS.

48. WARREN TOOL COMPANY's Woodcarver's Catalog features the finest quality whittling and carving hand and power tools, books, sharpening stones, wood & supplies. Remember our motto, "Warren Tools give you the edge." We sell only the finest professional tools. Catalog $1.00.



49. The most complete selection of scroll saw blades, accessories, and improvements for almost any scroll saws. Also includes HEGNER Lathes & Lathe Duplicators, JET Clamps, Workbenches, FELDER Systems and more! Exclusive from ADVANCED MACHINERY IMPORTS LTD. $2.00 (refundable with order).

50. Over 1000 Woodcraft Patterns! Create gifts, toys, whirligigs, lawn ornaments, folk art, bird houses and feeders, magazine racks, shelves, children's items, kitchen and household accessories plus much more! Simple enough for the beginner, fun and profitable for the pro. ACCENTS IN PINE catalog plus sample pattern – only $2.00.

51. If you are making toys and other items for craft shows and flea markets, don't overlook our great selection of patterns for rocking horses, toys, cars, clocks and furniture. Specialty supplies, hardware, tools and gift items also available. ARMOR PRODUCTS. Catalog $1.00.

52. R.A. NESS & COMPANY -THE WOODWORKERS EMPORIUM offers a two-year subscription. Thousands of industrial-quality items – machinery, hand tools, portable electric tools and supplies featured at super sale prices. Fee refundable with purchase. $4.00.

53. MAKITA U.S.A., INC. – Makita offers a 128-page pocket catalog of their professional line of power tools with special emphasis on the entire cordless line. Free catalog provides complete information along with available accessories and practical applications.

54. TOOL CITY's 1987-88 giant 500 page catalog is the most complete mail order catalog. Priced to save you money in all categories. All types of power stationary and portable tools, hand tools and accessories. Send $5.00 for catalog now! Redeemable with first purchase.

55. Door Harp parts, wheels, spindles, hearts, shaker pegs and dowels are just some of the many turnings you will find in our new "Sketches" catalog. Plus "How to use" ideas. Low prices & fast service! WOODWORKS. CATALOG $1.00.

56. CONSTANTINE'S complete Woodworkers Catalog offers 116 pages of 150 kinds of veneers, 30 species of hardwoods, specialty woodworking tools and accessories. Hard-to-find hardware, inlays, moldings, cane, books and plans, finishes, etc. $1.00.

57. One-page brochure from NOVA TOOL COMPANY describes branding irons that enable you to put your name on your woodwork quickly and easily. Made especially for branding wood, they are available with 1,2 or 3 lines of copy or with your logo. $1.00.

SUBSCRIBERS PLEASE NOTE!

WOOD magazine subscribers frequently express interest in products and services that are supplied by our company, Meredith Corporation, and by other reputable firms.

Accordingly, we sometimes send our subscribers offers for books, other magazines or home-related products and services of potential interest. We also make subscriber names and addresses available to other firms who are able to supply appropriate products and services. We screen all such offers and take great care to see that information about these products and services is sent only to subscribers who, according to our records, are most likely to be interested.

While we believe the distribution of this information will be beneficial to our subscribers, we firmly respect the wish of any subscriber who does not want to receive it. Should you wish to restrict this, simply send your request to WOOD magazine, P.O. Box 10263, Des Moines, IA 50336, enclosing a current address mailing label. Please be specific as to whether you still wish to receive Meredith Corporation offers or whether you want to stop all offers from any company, including Meredith. We will gladly honor your request.

(ADVERTISEMENT)

The Discerning Craftsman Catalog Shop

ORDER FORM

Circle the catalogs you want. Fill out the coupon and include your check made out to Better Homes and Gardens® WOOD for the cost of the catalogs you ordered plus the $2 handling fee. Please allow 4-6 weeks for delivery. Coupon expires August 13, 1990.

Circle the catalogs you want to receive:

1. $ 4.00	20. FREE	39. FREE
2. $ 1.00	21. FREE	40. FREE
3. $ 1.00	22. $ 5.00	41. FREE
4. $ 2.00	23. $ 1.00	42. $ .75
5. $ 1.00	24. FREE	43. $ 1.00
6. FREE	25. $ 1.00	44. $ 2.00
7. $ 1.00	26. FREE	45. $ 2.00
8. $ 3.00	27. FREE	46. FREE
9. $14.95	28. FREE	47. $ 5.00
10. FREE	29. FREE	48. $ 1.00
11. $ 1.00	30. FREE	49. $ 2.00
12. $ 1.00	31. $ 5.00	50. $ 2.00
13. FREE	32. $ 1.00	51. $ 1.00
14. $ 3.00	33. $ .75	52. $ 4.00
15. FREE	34. FREE	53. FREE
16. $ 2.00	35. FREE	54. $ 5.00
17. $ 1.00	36. $ 1.00	55. $ 1.00
18. $ 1.00	37. $ 2.00	56. $ 1.00
19. $ 9.95	38. FREE	57. $ 1.00

Send to:

Better Homes and Gardens®, WOOD
Dept. JACS89, P.O. Box 5103
Pittsfield, MA 01203-5103

I am enclosing:
$ _____ for priced items
$ 2.00 for handling
$ _____ total remittance

Name _____
Address _____
City _____
State _____
Zip _____

WILLIAMS TOOL SALES COMPANY, INC.
EST. 1946

Call for FREE Router Bit Chart
2'x3' Color Chart Showing our Entire Selection!

1-800-338-6668

Satisfaction Guaranteed. Merch. shipped complete w/ factory standard accessories

DELTA
10" Contractor's Saw
$598.00
#34-444

34-429	10" Tilt Arbor Bench Saw	$995
34-782	Unisaw	Call
34-740	Super 10" Table Saw	349
34-670	10" Table Saw	314
33-050	Sawbuck Trim Saw	529
34-985	Prod. Stock Feeder	554
34-995	Prod. Stock Feeder 3ph.	739
34-994	Prod. Stock Feeder	829
28-283	14" Band Saw 3/4 hp	588
28-243	14" Band Saw 1/2 hp	480
33-890	12" Radial Saw	1148
33-990	10" Radial Saw	568
37-350	8" Precision Jointer	1388
37-154	6" Jointer DJ-15	908
37-280	6" Motorized Jointer	295
43-122	Wood Shaper	599
34-080	10" Motor. Miter Box	195
17-900	16-1/2" Drill Press	298
34-330	8-1/4" Bench Saw	225
40-601	18" Elec. Scroll Saw	699
31-340	1x42" Belt/Disc Sander	159

ELU $266
#3338
2-1/4 hp Elec. Plunge Router

3337	2-1/4 hp Plunge	247
3304	1 hp Electronic Plunge	180
3303	1 hp Plunge	145
4024	3x21 Electrnc Belt Sndr	206
4023	3x21 Belt Sander	192
3375	Universal Planer	195
3380	Jointer/Splinter	325
4029	4"x24" Belt Sander	325
40900	Router Acess. Kit	135

2017 White Settlement Rd.
Ft. Worth, TX 76107
Limited Quantities-Errors Subject to Correction

BOSCH
1-3/4 hp Router
$118 — #1604

1581VS	VS Orb. Jig Saw	$128
1611	3 hp Plunge Router	198
1198VSR	1/2" VSR Ham. Drill	124
1196VSR	3/8" VSR Ham. Drill	107
1609K	Laminate Kit	155
1582VS	VS Orb. Jig Saw	118

HITACHI
1/2" Super Duty Router
$159
TR12

CB75F	Band Saw	$1575
C15FB	15" Hvy Duty Miter Saw	359
C8FB	8" Compnd Miter Saw	479
TR8	1/4" Hvy Duty Router	118
#F1000A	12" Planer Jointer	1389

RYOBI
10" Surface Planer
$347
#AP10

RE600	3 HP Router	$195
BE321	3x21" VS Belt Sander	119
R500	2-1/4 HP Plunge Router	154

PORTER CABLE $54
#330
Speed Bloc® Sander

690	Router, 1-1/2 hp	$114
100	Router, 7/8 hp	90
691	D Hndl Router 1-1/2 hp	129
7548	VS Top Hndl Jig Saw	124
555	Plate Joiner	157
	Biscuits pkg	25

Satinwood Products

PROFESSIONAL TOUCH-UP KIT

for
FURNITURE—CABINETS—DOORS

A special blend of rich natural pigments and satin finish lacquer for professional results at home. Each kit contains the most commonly used colors with an easy to use brush in each bottle and a complete set of easy to follow instructions. Send check or money order for $9.95 plus $2.00 shipping and handling to:

Satinwood Products
9612 Kent Street
P.O. Box 1387
Elk Grove, CA 95759-1387

CALIFORNIA RESIDENTS ADD SALES TAX

MAKE TOYS
CLOCKS & WHIRLIGIGS

Make wooden toys, whirligigs, clocks, dollhouses, autos, music boxes, weather instruments, games, crafts & furniture with our plans, parts (hardwood & metal), kits (for all skill levels), books, tools and supplies. Bulk prices. Catalog $1. (614)484-4363
Cherry Tree Toys, Bx 369-409, Belmont, OH 43718

FISHERMAN 22" long
Precut Kit: $29.95
Just sand & assemble

Visa/MC
Uncut Kit: $24.95
Just cut, sand & assemble

Garrett Wade
161 Avenue of the Americas
New York, NY 10013
(212) 807-1155 *for service*
(800) 221-2942 *for orders*

Woodworking Tool Catalog: 212 pages of tools from the USA and around the world. Workbenches; Router Bits and Accessories; Measuring Tools; Carving Tools; Planes; Chisels; Finishing Supplies; and Books. With tips on selecting, using, and maintaining the tools that will serve you best. $4.00

Classic Hardware Catalog: 64 pages of the finest brass furniture hardware. Hinges; Latches; Locks; Handles; Knobs; Casters; Architectural and Door Fittings. $2.00

BUILD THIS BLANKET CHEST
(17"D×18"H ×36"W)

Order plans for this charming reproduction

This beauty will be admired by family and friends alike—especially when they see the great storage space that you've gained for your prized quilts and blankets.

The chest lid is hinged, and a pair of shallow drawers below add an authentic touch.

For complete building plans, including the know-how for duplicating the beautiful antiqued, painted finish, send $12 ppd. (Canadian residents please remit postal money order in US funds) to:

HAMMERMARK ASSOCIATES

Box 201–ABW8 Floral Park, NY 11002.
Catalog available for $1.00 (refundable).
Prices effective through 12/31/89.

Where Do Ohio's Serious Woodworkers Shop?

WOODCRAFTERS SUPPLY ©

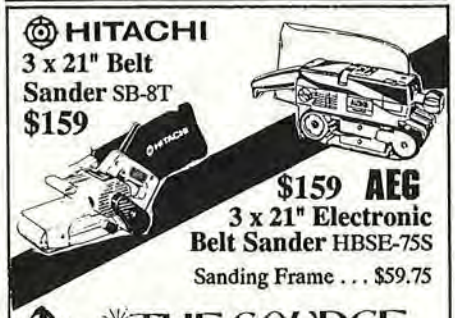
5331 Sinclair Road
Columbus, Ohio 43229
(Off I-71)
(614) 436-6900

FULL SIZE
450 WOOD PATTERNS

FOR JIGSAW BEGINNERS & PROS

Over 450 workable, imaginative patterns. Simple "COUNTRY CUTOUT" projects teach kids scroll saw basics. Many intermediate projects. Plus valuable advanced projects; even challenge yourself with the beautiful recess, relief, marquetry and inlay techniques. Plus tips on stain color schemes, wood-burning, stenciling, decal applications -- adding your own personal touches. A-to-Z Includes: Alphabets & Numbers • Animals • Bears • Belt Hooks • Best Sellers • Birds • Brackets • Butterflies • Candle Holders • Cats • Children • Christmas Ornaments • Cows • Deer • Dogs • Ducks • Eagles • Gingerbread Men • Heart Projects • Horses • Inlays • Jewelry • Jigsaw Puzzles • Lamps • Napkin Rings • Picture Frames • Refrigerator Magnets • Fretwork Shelves • Toys • Wreaths • Yard Ornaments • **AND HUNDREDS MORE!** Easy step-by-step instructions and finishing tips. Why pay $3.00 for a pattern when you can own 450 for less than 3¢ each! A lifetime of projects only $12.95, plus $1.50 shipping. Send to:
★ **A.T.H. CO., DEPT. 2104.** P.O. BOX 70, STROUDSBURG, PA 18360 ★

HITACHI
3 x 21" Belt Sander SB-8T
$159



$159 **AEG**
3 x 21" Electronic Belt Sander HBSE-75S
Sanding Frame . . . $59.75

THE SOURCE.
7305 Boudinot Drive
Springfield, VA 22150
(703) 644-5460
Quantities Limited FREE FREIGHT
US 800-452-9999 VA 800-468-1778

For families who enjoy and take pride in their homes, there's no more appropriate gift than a subscription to WOOD magazine.

WOODWORKER'S CATALOG

There are over 4,000 money-saving reasons why woodworkers rely on Constantine.

4,000 woodwork items—to help you Build-Restore-Repair-Refinish! Over 200 different woods . . . 150 veneers . . . 500 plans . . . cabinet hardware . . . 96 How-To Books . . . 118 carving tools and chisels . . . 76 inlay designs . . .and lots more for One-Stop, Right-Price Shopping without leaving home!

116 Page Catalog-Only $1.00

CONSTANTINE Est. 1812
2054L Eastchester Road, Bronx, New York 10461

Miles of Smiles
with our Wooden Kiddie Coaster Trolley!

EASY!!!

full sized pattern and instructions $5.00 ppd.

Valhalla and Company
DEPT. B-1 • P.O. BOX 39 • SPRINGVILLE, NY 14141

Exotic Woods

The Sawmill is an excellent wholesale source for exotic and domestic hardwoods, and musical instrument components.

Call toll free 800-345-3103*
for price lists and information.

For specialty woods, Martin memorabilia, guitar kits or parts, with no minimum order, ask for Woodworker's Dream
*In Pennsylvania, call (215) 759-2064

The Sawmill
THE MARTIN GUITAR COMPANY
Nazareth, Pa. 18064

SIGNCARVING IS FUN & PROFITABLE!

And it's easy, if you use the Marlin Woodcarvers and accessories. You can carve signs quickly at home or at swap meets. *No special training is required.* The machines do the work, the operator has the fun and the profits. These machines will also 3-D carve panels and plaques.

SEND $1.00 FOR OUR FULL LINE BROCHURE AND PRICE LIST AND START PLANNING YOUR FULL OR PART-TIME BUSINESS.

MARLIN INDUSTRIES, INC.
Rt. 70, Box 191, Dept. D98
Cashiers, NC 28717
(704) 743-5551

OCTAGON PICNIC TABLES
Plans $16.75

Easy to follow plans, instruction sheet and step by step pictorial.

Features include. walk through seating, ability to seat eight people in a sociable circle. the strength of a bolted construction.

Specialty Furniture Designs of Michigan
797 West Remus Rd., Dept. W5 Mt. Pleasant, MI 48858
VISA/MC Accepted MI. Res. Add 4%

Information

Print this article

WORTH WRITING FOR

You can get useful ideas and product information by mail. Use the coupon in this section to order your choice of literature listed below.

POWER TOOLS

SCROLL SAW AND LATHE INFORMATION — More than 20 pages of information, including full-color photos, on HEGNER precision scroll saws, HEGNER lathes, and HEGNER duplicators. Find out why these machines are considered state of the art, and what to look for when shopping for scroll saws or lathes. AMI, LTD. $1.00. *Circle No. 3.*

WOODWORKING PROFESSIONALS ONLY — Now save 50% on machinery, 70% on operating costs! How? By using the world's finest production quality universal machine. Commercial durability, utmost precision, set-up in seconds. No other tool combines usable capabilities like FELDER. Thousands sold all over the world. Now available in America through AMI. Send for brochure. AMI LTD. $1.00. *Circle No. 4.*

THIS IS IT! THE CATALOG YOU'VE BEEN WAITING FOR!—ACME's catalog contains everything you need whether you're a professional woodworker, hobbyist, or contractor. All 120 pages are fully illustrated, and contain some of the lowest prices on name brand manufacturers that you will find anywhere. A must for anyone serious about saving money. ACME ELECTRIC. $2.00. *Circle No. 6.*

BOSCH BELT SANDER, MODEL 1273DVS—10.5 amp 4"x24" Belt Sander with 6 speeds, speed selector guide. Use higher speeds with coarse grits; slower, with finer ones. Faster belt changes, automatic belt tensioning; uses dust collection bag or vacuum-boosted Bosch Air Sweep™ system. BOSCH POWER TOOL CORP. Free. *Circle No. 17.*

BOSCH LAMINATE TRIMMER KIT, MODEL 1608—Trim laminates, veneers; 5.6 amp motor. Complete with all bases; accessories for shop, installation tasks. One base handles routine cuts; tilting base trims odd angles or up to vertical surface; offset base for corners, angles. BOSCH POWER TOOL CORP. Free. *Circle No. 18.*

BOSCH 3 HP PLUNGE ROUTER—Ergonomics, superior safety and operator control, plus wanted features mark the Bosch 1611, 3 hp, 22,000 no load rpm Plunge Base Router. Controls are located so operator's hands stay on over-sized handles. Collet capacity to ½-inch. BOSCH POWER TOOL CORP. Free. *Circle No. 19.*

BOSCH JIG SAW, MODEL 1581VS—Virtually vibration-free top handle model has 6 speeds; 4 blade orbits. Controls; blade lock and guide; tilting footplate; blade options; and 4.8 amp motor let you meet sawing requirements with precision. BOSCH POWER TOOL CORP. Free. *Circle No. 20.*

FREE FULL COLOR POWER TOOLS APPLICATION GUIDE/CATALOG—from Dremel describes company's complete line of compact power tools, attachments, and accessories. It features newly designed Moto-Tools, Flex-Shaft attachment, and drill press. Literature also includes descriptions of 170 different bits for cutting, carving, polishing, clearning, routing, grinding, engraving, and more. DREMEL. Free. *Circle No. 33.*

FREE WOODWORKING POWER TOOL CATALOG—Buy planers, jointers, shapers, table saws, scroll saws, bandsaws, drill presses, wood lathes, sanders, dust collection systems, and more...direct from the factory and save. Foley-Belsaw sells direct to you...so you save on every purchase. You'll find quality power tools, plus hand tools and accessories to meet all of you woodworking requirements. Complete money-back guarantee. Send for details. FOLEY-BELSAW. Free. *Circle No. 41.*

MANUFACTURED SINCE 1926,—the Foley-Belsaw Model M-14 Circular Sawmill lets you go right to the trees to turn out smooth, true-cut lumber. Available with heavy-duty steel base or with plans and track provided for owner built wood base. Will accurately saw logs up to 14 ft. in length and up to 24 in. in diameter. Complete money-back guarantee. Send for details. FOLEY-BELSAW CO. Free. *Circle No. 42.*

INCA MACHINERY INFORMATION—Complete information on the famous line of Inca Swiss woodworking machines. Designed for precision work by the small to medium sized cabinet shop. Used by thousands of hobbists and professionals. Table saws, bandsaws, joiner/planers, dust collector, radial arm saw. GARRETT WADE CO. Free. *Circle No. 44.*

INTERESTED IN FINE WOODWORKING—with the Excalibur T-Slot Saw Fence system you can turn your table saw into a precision cutting machine and work center. Send for brochure and name of nearest dealer. EXCALIBUR MACHINE & TOOL CO. $1.00. *Circle No. 51.*

KELLER DOVETAIL SYSTEM—"In a class by itself" — Wood Magazine. Beautiful through-dovetail joints made accurately, quickly and very easily with your router. For novice and pro. Warranted 20 years! Send for full descriptions. KELLER & CO. $1.00. *Circle No. 56.*

LOBO POWER TOOLS—Our lower prices make our fine woodworking machines more affordable for you, "our customers." We sell a complete line of band saw jointers, planers, drum sanders, shapers, and much much more. All of our machines come with a 1-year warranty. Order today for a free catalog. LOBO POWER TOOLS. Free. *Circle No. 57.*

MAKITA U.S.A. INC—offers all new 86-page catalog on their professional line with special emphasis on the entire cordless line. Catalog provides complete information along with available accessories, practical applications at suggested retail prices. MAKITA U.S.A. INC. Free. *Circle No. 61.*

SCROLL SAW—Information package available from Penn State Industries describing the specifications and applications of its super 15-inch scroll saw. Special discount pricing available on current promotion. PENN STATE INDUSTRIES. Free. *Circle No. 76.*

SURFACE PLANER—Information package available from Penn State Industries describing the specifications and applications of its super 12½-inch surface planer. Special discount pricing available on current promotion. PENN STATE INDUSTRIES. Free. *Circle No. 77.*

AFFORDABLE PRECISION SURFACE SANDER—Tired of high and low spots and countless hours of sanding? Now you can buy the components to fit your budget and your needs: The Performax S/T Sander attaches to radial saw or stand, optional power feed conveyor unit, stand hardware kit for a build-your-own stand or all the metal, ready-to-assemble pro stand. Send for informative brochure. PERFORMAX PRODUCTS. $1.00. *Circle No. 78.*

QUALITY AMERICAN-MADE SCROLL SAWS—The RBI Hawk family of Precision Scroll Saws with 6 models, one to fit your needs. Patent pending Camover Quick Blade Change system, 2 way tilting tabletop, 2 speed or variable speed motor, all add up to make the Hawk the best value on the market today. Virtually end sanding forever! Send for the facts. RB INDUSTRIES, INC. Free. *Circle No. 84.*

AMERICAN WOODWORKING EQUIPMENT—Over 60 years of experience manufacturing first quality woodworking machinery. The RBI Woodplaner a leader in versatility and durability featuring planing, moulding, sanding and gang ripping capabilities all in one space saving machine. The RBI Joint Machine makes most precision joints simple to make in just seconds. Send for fact filled brochure. RB INDUSTRIES, INC. Free. *Circle No. 85.*

SAKURA SCROLL SAW INFORMATION—You owe it to yourself to compare the value-priced 14-inch 3-speed ScrollMate with other units before you make your buying decision. It offers a built-in air bellows; stand; quick, safe speed changes; and a full 2-year limited warranty—all at a price that's tough to beat. SAKURA USA. $1.00. *Circle No. 87.*

SKIL CORPORATION—Full color, complete line, power tool catalog. Features cordless screwdrivers, drills and the cordless Skilwrench™. Corded products include circular saws, drills, drywall drivers, sanders, hammer drills, jigsaws, planes, roto hammers, sander/grinders, shears, routers, xtra tools, bench top tools and recipro saw. All product accessories are also shown. SKIL CORPORATION. $1.00. *Circle No. 88.*

THE VERSATILE TOOLMAX T310—woodworking machine solves the common "too small a shop" problem by combining a 10" table saw, 1" spindle shaper, 12" jointer, 12" planer and fully adjustable mortising table. Saves 90% on space and 60% on investment. Send for complete color information pack. TOOLMAX. $1.00. *Circle No. 90.*

MOLDER-PLANERS FROM WILLIAMS & HUSSEY—Mold, plane, and edge, convert from moulder to planer in less than 2 minutes. The W-7 series is available in 3 models for manual, power in feed, or power in feed/out feed. The units plane to a satin, almost sanded finish, produce doll house to crown sized mouldings, raised panels, and virtually any shape profile. Custom knives available up to 7" wide and ¾" depth of profile. Rugged, well-made, dependable, and transportable. Complete with sturdy movable stand. Send for catalog. WILLIAMS & HUSSEY. $1.00. *Circle No. 93.*

PORTABLE SAWMILLS—Convert logs into valuable lumber—Wood-Mizer® Products manufactures a line of portable bandsaw mills that allows the novice as well as the experienced sawyer to safely convert standing logs into lumber. Then, with the use of our SolaryDry™ Kiln or Vacu-Kiln™ to dry your lumber, you could increase the value of every board you produce. We manufacture some of the most progressive woodworking equipment on the market today. Product videos available. Send for our 44-page catalog. WOOD-MIZER PRODUCTS. $1.00. *Circle No. 94.*

BRIDGEWOOD WOODWORKING MACHINERY—a new 52-page catalog of fine BRIDGEWOOD wood and metalworking machinery is available from Wilke Machinery Company. The BRIDGEWOOD line includes a wide range of products for use in the serious home workshops up through the industrial appliacations. WILKE MACHINERY CO. $1.00. *Circle No. 96.*

12", 18" and 25" PLANER/MOLDER/SANDER FROM WOODMASTER TOOLS—a size to meet any shop requirement...all with exclusive variable feed rate. Free information kit includes details on 30-day trial period and easy terms. WOODMASTER TOOLS, INC. Free. *Circle No. 99.*

COMPACT STROKE SANDER FEATURES BIG CAPACITY—The low-cost, Model 800 features three built-in speeds, a large, 24" x 48" sliding table with automatic elevation, and a traveling, lever-action, pressure platen. Open-ended design accomodates any length material. Long-lasting belts are 6" x 156". 30-day free trial! WOODMASTER TOOLS, INC. Free. *Circle No. 100.*

HAND TOOLS

VISE-GRIP® LOCKING C-CLAMPS—and new, VICE-GRIP locking bar clamps. All clamps available with self-leveling swivel pads to protect soft surfaces, and famous, time-saving, locking action. Sizes from 4-24 in. AMERICAN TOOL CO., INC. 25¢. *Circle No. 105.*

DIAMOND WHETSTONES BY DMT—Discover the ease and speed of sharpening on the finest Diamond Whetstones. Five sizes from 3" to 12" in fine, course, and extra course. Finest monocrystalline industrial diamonds permanently bonded in nickel. Lubricated with water rather than messy oil. Stays flat, unbreakable. Twelve years of serving sharpening needs. Satisfaction guaranteed. Send for full color catalog. DIAMOND MACHINING TECHNOLOGY, INC. $2.00. *Circle No. 112.*

HAND TOOL CATALOG—Available from the leading imperter of European woodcrafting tools. Such names as Record Marples, Sorby, Emmerich, Kunz, Schmitt, and more. Send for catalog, price list and dealer list. ANGLO AMERICAN ENTERPRISES. $2.00. *Circle No. 115.*

PERSONAL BRANDING IRONS — Brochure describes branding irons that enable you to put your name on you work quickly and easily. Made especially for branding wood, they are available with 1, 2, or 3 lines of copy or with your logo. Changeable date also available. NOVA TOOL CO. $1.00. *Circle No. 160.*

THE JAPAN WOODWORKER 1989 CATALOG—is loaded with the best tools you can get your hands on. In our catalog you will find a complete selection of Japanese tools for the woodcarver, carpenter, and cabinet maker. Send for catalog plus supplements for next two years. WOODLINE-THE JAPAN TOOL & SUPPLY. $1.50. *Circle No. 190.*

STAINS/FINISHES

DEFT SOUTHWEST COLLECTION PAMPHLET—Bring the colors of a desert sunrise into your home with Deft's new Desert Oak White Wood Stain and tint base. Pamphlet shows a wide variety of pastel colors available. DEFT, INC. Free. *Circle No. 215.*

ARTI ANILINE DYES—Color chart features 28 aniline colors and 8 toymaker's colors. Price list and ordering instructions included. HIGHLAND HARDWARE. $1.00. *Circle No. 232.*

EASY WOOD FINISHING—Learn how to finish wood easily and beautifully with Watco, original Danish Oil Finish. Get a natural, hand-rubbed look in one step...one product. Full color brochure includes usage, tips, trouble-shooting, and more. WATCO-DENNIS CORP. Free. *Circle No. 270.*

PLANS

MAKING WHIRLIGIGS AND OTHER WIND TOYS—This 128-page best-selling book contains photos, patterns and easy instructions for whirligigs and other wood toys that

TO ORDER THESE BOOKLETS, USE COUPON ON PAGE 102

move in the wind: A soldier, a policeman, Uncle Sam, a pirate, a sailor, a mermaid, windmills, racing jockeys, many more! Great for beginners. Complete instructions with finishing tips. A.T.H. CO. $11.45. *Circle No. 302.*

OVER 1000 WOODCRAFT PATTERNS!—Create gifts, toys, whirligigs, lawn ornaments, folk art, bird houses and feeders, magazine racks, household accessories, plus much more! Simple enough for the beginner, fun and profitable for the pro. Catalog plus sample pattern. ACCENTS IN PINE. $2.00. *Circle No. 310.*

WOODWORKERS' PLANS AND SUPPLIES — Wood projects are simplified with the high quality plans, specialty hardware and other supplies offered by Armor Products. Over 100 plans are available for making toys, desks, clocks, pool tables, lamps, chests, and other furniture. Movements, dials, moldings, ornaments, dollhouse kits, door harp supplies and tuning pins are also available. ARMOR PRODUCTS. $1.00. *Circle No. 315.*

BUILD MINIATURE HORSE-DRAWN VEHICLES—The Concord Stagecoach symbol of the Old West, the Conestoga Covered Wagon, and the Prairie Schooner are some of the vehicles you can build using our plans in 1/12 and ⅛ scale. Concord Coach and Conestoga are available in full size 1" scale cutting patterns. Also English vehicles, some in 1/20 scale cutting patterns excellent for beginners. Ready-made plastic wheels available for 1/20 scale vehicles. Also books featuring from England, "Making Horse-Drawn Vehicles" by John Thompson, who has done extensive work in this area. CRISS-CROSS CREATIONS. $1.00. *Circle No. 332.*

PATTERNS BY DESIGN GROUP — Hundreds of interesting, useful and fun items to create for personal use or profitable sale. Our newest catalog contains plans for toys, games, plaques, puzzles, birdhouses, planters, furniture, and much more! All Design Group patterns are professional, "same size" blueprints. No enlarging or reducing is necessary. Simply trace outline of item onto wood and create! Started in 1977, Design Group has sold thousands of patterns to thousands of satisfied customers. Prices start at $1.00, all patterns come with a full money-back guarantee. Wholesale and bulk prices are available on request. Fully illustrated catalog. DESIGN GROUP. $1.00. *Circle No. 340.*

UNIQUE PROJECTS IN WOOD—including our whimsical Marble Tower. Marbles release automatically to cascade down ramps, over a xylophone, around a spiral funnel to ring bells and spin paddle wheels. Handsome styling for home or office. Also plans for clocks, dollhouses and furniture, tole projects, wooden guns, and our award-winning cavalry fort with men, horses and covered wagons. Send for illustrated brochure including free toy motorcycle and helicopter plans, plus 8 new and practical shop tips. FOREST STREET WOOD DESIGNS. $2.00. *Circle No. 344.*

FULL-SIZE FURNITURE PLANS CATALOG — Illustrates and describes over 200 plans for making furniture of quality found in museums and fine furniture stores. Plans include rolltop desk, cradles, dining tables, chairs, buffets, chests, gun cabinets, poker table, children's furniture, rocking horse, spinning wheels, and more. Bill of materials exploded drawings assist the woodworker. FURNITURE DESIGNS, INC. $2.00. *Circle No. 345.*

STICKLER FOR DETAIL?—At last an exciting new line of realistic wood block models that you can build with your own scrap wood and dowels and my easy-to-follow instructions. Highly detailed plans for a 20x8¾-in. dump truck. GATTO PLAN SUPPLY. $8.00. *Circle No. 355.*

COUNTRY FURNITURE PLANS — Our catalog features more than 30 designs—from a washstand to a roll top desk. Our new book on finishing and refinishing will show you how to finish projects like the pros. Also included are various products for the home workshopper. Send for our latest catalog (price of catalog deductible from first order). HAMMERMARK ASSOCIATES. $1.00. *Circle No. 370.*

WOODWORKING PLANS — Catalog of full-size plans printed on heavy paper for toys, gifts, novelties, action windmills, shelves, birdhouses, garden furniture, Dutch windmill, lawn ornaments, old-fashioned lawn swing, jigsaw projects for children, and more. MASTERCRAFT PLANS WEST. $1.00 (refunded with first order). *Circle No. 390.*

HEIRLOOM WOODEN HORSE—A decorative piece for your home or for your children's delight. Build this horse yourself, and they will ride it for years. Made of solid wood and beautiful brass. This horse will be the pride of your family for generations. Plan includes specific step-by-step instructions with full-size blueprint and material list. Free blueprint with your order. THE MASTERS PLAN. $10.95. *Circle No. 395.*

WOODWORKING TREASURES—Create your own beautiful woodworking masterpieces. All you need is simple tools, and our easy to follow patterns and directions. You will be proud to display these 1/6 scale beauties. Choose from Victorian Riding Toys and Carousel Animals. Send for our latest brochure. THE MASTER'S WORKBENCH. $1.00. *Circle No. 398.*

BACKYARD STRUCTURES — Contains designs for 21 really different storage sheds, 5 cabanas, 13 animal shelters, 3 barns, 13 garbage enclosures, 3 studios, and more, plus 8 plans in book. 66 designs in all, for which plans can be ordered. Full color. SUN DESIGNS. $10.45. *Circle No. 454.*

MAKING TIMELESS TOYS IN WOOD — contains 40 heirloom-quality designs, with 20 mini-plans in book. Full color, 96 pages. SUN DESIGNS. $11.45. *Circle No. 455.*

CUPOLA AND BRIDGE — Consists of designs for 22 foot bridges, 8 covered bridges, 36 cupolas, and some history of each. Complete plans available for each design. SUN DESIGNS. $10.45. *Circle No. 456.*

GAZEBOS AND OTHER GARDEN STRUCTURES — The most comprehensive collection of gazebo designs found anywhere today. Includes 55 gazebo designs from 8 ft. to 30 ft., 13 strombellas, 7 arbors, 14 bird feeders, and 4 birdhouse designs. Has mini-plans of 2 bird feeders and 1 of our most popular Tiffany gazebo. Complete construction plans can be ordered for all 93 designs. SUN DESIGNS. $10.45. *Circle No. 457.*

CREATE FUN & PROFITABLE WOODCRAFTS—Popular folk-art, toys, decorative country items, old fashioned St. Nicks. 20-page catalog is overflowing with over 400 original projects for all skill levels. Full size blueprint patterns eliminate tedious enlarging—giving you more time to enjoy actual woodworking. THE WINFIELD COLLECTION. $1.00. *Circle No. 480.*

LUMBER

QUALITY EXOTIC LUMBER/TURNING WOODS—We offer a comprehensive selection of fine quality exotic woods: Ebony, Kingwood, Tulipwood, Snakewood, African Blackwood, Cocobolo, Bloodwood, Figured Maple, Spaulted Maple, Padauk, etc. Unique and unusual turning woods and burls are also available. Send for catalog. BEREA HARDWOODS. $1.00. *Circle No. 510.*

WOODWORKERS! HELP CELEBRATE OUR 59TH YEAR OF SERVICE — Send for our new 148-page Craftsman 1988-89 Catalog #55. 42 varieties of choice hardwoods 1/64 in. to 4-in. thickness. Fine hardwood veneers, tools, moldings, trim, marquetry inlays, upholstery and lamp supplies, finishes, clock kits, and hard-to-find hardware. 4,000-plus items for your projects. CRAFTSMAN WOOD SERVICE CO. $1.00. *Circle No. 520.*

DO-IT-YOURSELF LUMBER DRYING — This 22-page booklet *Kiln Chamber Construction Guide and Operation Manual* is designed for the individual wishing to dry his own lumber with a minimum investment of money, time, and space. Included are principles of dehumidification lumber drying, selection of which dryer is best for you, and kiln chamber plans and construction information. Also you will receive a questionnaire you can fill out and return. Once completed and returned you will receive a free evaluation of your drying needs including investment considerations, operating costs, and payback. EBAC LUMBER DRYERS. $10.00. *Circle No. 525.*

THIN LUMBER—Approximately 20 species—⅛" to ¾" thickness. Thinner material sanded, all KD & surfaced—UPS delivery in continental US included in price. Packages of micro-lumber ⅛" - ½" thick. HARDWOODS OF ILLINOIS. 50¢. *Circle No. 545.*

THE BEST LUMBER AT THE RIGHT PRICE—Located in close proximity to some of the most ideal growing ranges for Red Oak, Pennsylvania grade Cherry, Hard Maple, Ash, Poplar, and other hardwoods, we can supply your needs with the highest quality hardwoods. Our experience in hardwood purchasing and our dedication to keeping our overhead low is your guarantee of low prices. No minimum order. Retail and wholesale. Send for 20-page catalog. NORTH EASTERN HARDWOODS. $2.00. *Circle No. 563.*

LUMBER DRYING — Nyle Corp., the largest manufacturer in the United States of dehumidification Dry Kiln Systems, offers *Introduction to Dehumidification Lumber Drying.* NYLE CORP. Free. *Circle No. 565.*

RARE IMPORTED EXOTIC AND DOMESTIC HARDWOODS—The world renowned Martin Guitar Co. sells wholesale and retail exotic wood (4/4, 6/4, 8/4) and sawn veneers (⅛" & ¼" Sanded Stock), plus guitar parts, kits, accessories and second quality guitars. Send for catalog. SAWMILL/WOODWORKER'S DREAM. $2.00. *Circle No. 578.*

STEVE H. WALL LUMBER CO—Quality hardwoods and woodworking machinery for the craftsman and educational institutions. 22-page catalog lists 15 species of popular hardwoods at wholesale prices. Also dealers for Delta, RBI, MiniMax, Freud and ProCut woodworking machines. STEVE H. WALL LUMBER CO. $1.00. *Circle No. 592.*

VIDEOS

FINE WOODWORKING VIDEOLOG—Send for your 50-minute video tape sampling of the world's most in-depth woodworking videos. Includes tips on finishing, turning, furniture repair, workshop techniques and other related subjects. Price is good toward purchase. Order today. TAUNTON PRESS. $5.00. *Circle No. 670.*

EPOXIES/GLUES

TITEBOND WOOD GLUE—Since its introduction 30 years ago, Titebond has revolutionized the woodworking industry. Consistently used by woodworkers who demand fast grab, easy alignment, fast set, and superior heat and solvent resistance. Titebond is paintable, stainable, won't soften or gum up when sanded and bonds stronger than the wood itself. For professional woodworking results, demand Titebond Wood Glue. Send for information. FRANKLIN INTERNATIONAL. Free. *Circle No. 715.*

GENERAL WOODWORKING CATALOGS

ADVANCED WOODWORKING—Specialty products catalog from the exclusive distributors of Hegner & Felder woodworking machinery. Includes complete selection of scroll saw baldes, accessories, and improvements for almost any scroll saw. Also the Hegner precision scroll saws, lathes & duplicators, Jet clamps, workbenches, Felder systems & more. AMI, LTD. $2.00. *Circle No. 801.*

WOODWORKING MACHINERY—16 page full color catalog showing technical data of superb German hobbyist machines. Jointer/planer, shaper, lathe, bandsaw, dust extractor—all superb value-for-money. ELEKTRA BECKUM USA. $1.00. *Circle No. 803.*

EVERYTHING FOR THE WOODWORKER — Wide selection of woodworking supplies, including candle cups and shaker pegs. Price of catalog is refundable with order. BENNY'S WOODWORKS. $1.00. *Circle No. 810.*

CONSTANTINES' CATALOG FOR WOODWORKERS—116 pages packed with over 4,000 products for fine woodworking. Included are 250 kinds and sizes of domestic and imported hardwoods; 150 varieties of exotic veneers, top quality woodworking tools, hard-to-find specialty hardware and accessories; wood finishes, books, plans, and more. 60-day money back guarantee if not fully satisfied. Serving the woodworker since 1812. ALBERT CONSTANTINE AND SON, INC. $1.00. *Circle No. 820.*

WOODWORKING TOOL CATALOG — Complete 92-page catalog of hard-to-find hand woodworking tools. We have a stock of over 300 book titles and carry the Myford English wood-turning lathe. Also inventoried are wood finishes of all possible descriptions and carving tools unequaled anywhere in the United States. Send today for your ticket to woodworker's heaven. You too, can be turning out quality woodwork. FROG TOOL CO, LTD. $2.50. *Circle No. 853.*

MASTER TOOLS CATALOG—1988-89 212-page master woodworking tools catalog. Full line of the best hand tools, power tools & accessories, machinery, glues, finishing supplies, and much more. Hundreds of books included. 212 pages. All four-color. Lots of technical information. GARRETT WADE CO. $4.00. *Circle No. 855.*

WOODWORKING MACHINERY CATALOG — Planers, jointers, tablesaws, shapers, drill presses, sanders and much, much more. Buy direct from importer at super low prices. Full color catalog. GRIZZLY IMPORTS, INC. Free. *Circle No. 860.*

TOOL/WOODWORKER'S CATALOG—78 full-color pages. Over 400 practical exclusive and hard-to-find tools/accessories for the woodworker, do-it-yourselfer and hobbyist. Many money-saving specials, and all items guaranteed. LEICHTUNG WORKSHOPS. Free. *Circle No. 878.*

WOODWORKING SUPPLIES CATALOG—1200 tools, patterns, veneers, thick and thin hardwoods, plywood, carving and turning stock, hardwood bundles shipped UPS, books, doweling jigs, hinges, hardware, drawer slides, dowels, spindles, 2 plys, flexibles, cane, finishes, stain, inlays, edging, burls, faces, more! Send for your catalog today! BOB MORGAN WOODWORKING SUPPLIES. $1.00. *Circle No. 890.*

WOODWORKING TOOL CATALOGS — R.A. Ness & Co., the Woodworkers Emporium, offers a 2-year subscription, a total of eight huge sale catalogs. Thousands of industrial quality items — machinery, hand tools, portable electric tools, and supplies — are featured at super sale prices. The fee is refundable with purchase. R. A. NESS & CO., the Woodworkers Emporium. $4.00. *Circle No. 900.*

TOOLS ON SALE—A division of Seven Corners Ace Hardware Inc. offers a comprehensive catalog featuring over 430 pages of the most competitive prices in the industry. If you're looking for savings and fast delivery on over 4000 items, request our catalog. This catalog offers one of the most complete selections of power tools available anywhere from the most respected manufacturers in the industry: Milwaukee, Makita, Porter-Cable, Black & Decker, Freud, Bosch, Delta, and many more. SEVEN CORNERS ACE HARDWARE. $1.00. *Circle No. 920.*

A WOODWORKER'S DREAM BOOK!—Power tools...hand tools...machinery...router bits...pneumatic tools...cutting tools...clamps...hardware...wood parts...books...and more! For our new catalog, we've selected the tools woodworkers want most from around the world...at prices that won't hurt your wallet. This is a must reference for every woodworking shop. So give us a try. Price of catalog is refundable with your first purchase. THE SOURCE. $2.00. *Circle No. 935.*

TOOL CITY CATALOG HAS THE TOOL OR ACCESSORY FOR YOU—The 500-page 1987-88 Tool City Catalog is the most complete mail order catalog. It features a comprehensive selection of stationary & portable power tools; hand tools, tool accessories, hardware parts, woodworking books, and shop equipment. Priced to save you money in all categories. TOOL CITY. $5.00. *Circle No. 945.*

WOODWORKING TOOLS OF EXCEPTIONAL QUALITY—Since 1928, we have searched the world for tools you don't just buy, but adopt; tools made by craftsmen for craftsmen, classics of lifetime quality for people who love to work with their hands...carvers, cabinetmakers, finishers, hobbyists, builders, teachers. Our catalog details over 4,000 tools, each backed by Woodcraft's unconditional guarantee of satisfaction. WOODCRAFT SUPPLY CORP. Free. *Circle No. 955.*

WOODWORKERS SUPPLY—offers high quality tools and supplies for skilled, amateur, and professional woodworkers. Our complete catalog includes machinery, hand tools, plans, router bits, shaper cutters, wood specialties, and more. For your two year subscription send to WOODWORKERS SUPPLY OF NEW MEXICO. Free. *Circle No. 975.*

KITS

FREE STANDING BACKYARD GYMS—Countryside Woodworking Inc. (CWI) offers 6 models and 11 options for a wide variety of family fun gyms. The only Backyard Gym you'll ever buy. 4x6 and 4x4 construction, playground rated hardware. Complete kits include all lumber. Hardware only kits also available. Send for complete color catalog. CWI. $1.00. *Circle No. 1005.*

CANOPY BEDS, WINDSOR CHAIRS, PLUS SHAKER AND QUEEN ANNE—museum reproductions lavishly presented with coordinated paints, lighting, pewter, and brass accessories. Furniture available assembled finished or ready-to-assemble kits. Since 1949 Cohasset Colonials has been the oldest and largest manufacturer of reproduction furniture kits. State-of-the-art joinery insures easy assembly. Custom bed hangings, quilts, fishnet canopies. Color catalog subscription. COHASSET COLONIALS. $3.00. *Circle No. 1015.*

OAK FURNITURE AND ACCESSORY KIT CATALOG—features a full range of top quality oak furniture kits and accessory items plus unfinished assembled furniture. Featured items include roll top desks in several styles, stacking barrister's bookshelves, tables, chairs, trunks, file cabinets, bedroom furniture, Mariner's globe, plus many more. Send for full color catalog and enjoy true woodcrafting pleasure. CRAFTSMANS CORNER. Free. *Circle No. 1017.*

FACTORY DIRECT GRANDFATHER CLOCKS—Build a magnificent grandfather clock kit from world's largest manufacturer. Clocks are made of solid ¾" hardwoods, primarily walnut, oak and cherry. West German-made solid brass movements. Send for color catalog showing our selection of grandfather clocks, furniture and home accent pieces. Buy direct from factory and save. EMPEROR CLOCK CO. $1.00. *Circle No. 1030.*

QUALITY CLOCK KITS AND PLANS — Handmade and semi-assembled of carefully selected ¾ in. cherry, oak, or walnut with beveled glass. Or build from "scratch" using our detailed plans and trim pieces. Choice of quality movements. Established in 1916. KUEMPEL CHIME CLOCK WORKS. $2.00. *Circle No. 1050.*

WOODEN SHIP MODELS — Discover the world's hobby — building fine-quality, historic wooden ship models. Described are true-to-life scale replicas, lifelike in every detail. A 64-page color catalog introduces you to this fascinating hobby. MODEL EXPO, INC. $2.00. *Circle No. 1060.*

MUSIC MAKER'S KEEP BOOK—a 36-page resource catalog for building and learning to play handmade musical instruments. This source book contains plans, blueprints, kits, books, hardware, strings and accessories for building such instruments as guitars, banjos, dulcimers, harps, violins, pipes, and more. ST. CROIX KITS. $1.00. *Circle No. 1080.*

PUBLICATIONS

WOOD NEWS—A newsletter containing tips, ideas, product reviews and specials. HIGHLAND HARDWARE. $1.00. *Circle No. 1129.*

WOOD CARVING — You can obtain information on learning woodcarving by sending for our literature. The offer includes sample copy of *The Mallet Magazine* and two lesson sheets on carving. NATIONAL CARVERS MUSEUM. $2.00. *Circle No. 1140.*

BOOKS BY AMERICA'S FAVORITE WOODWRIGHT—Roy Underhill, creator of "The Woodwright's Shop" for PBS, is the author of three best-selling books on hand woodworking and lore. Send for brochure on *The Woodwright's Shop, The Woodwright's Companion,* and *The Woodwright's Workbook.* UNIV. OF NO. CAROLINA PRESS. Free. *Circle No. 1185.*

SHOP ACCESSORIES

RIPSTRATE SAVES FINGERS — for table saw and radial arm saw users. Brochure describes the RIPSTRATE and shows how it gives straighter cuts, speeds, the work, prevents kickbacks, and keeps hands away from the blade. FISHER HILL PRODUCTS. 25¢. *Circle No. 1235.*

EASY DOES IT — with HTC'S power tool accessories. Discover many unique items, designed only with you, the dedicated woodworker, in mind. Make your machinery safer, increase the working area of your shop and accomplish nearly impossible tasks easily, quickly, accurately. Full-line catalog and price list. HTC PRODUCTS, INC. $1.00. *Circle No. 1245.*

CHISEL SHARPENING JIG—Inexpensive, patented jig assures accurate bevels on chisels and plane irons when used with bench grinder or Makita sharpener. Illustrated brochure. HIGHLAND HARDWARE. $1.00. *Circle No. 1247.*

BUY YOUR SANDING BELTS DIRECT FROM THE MANUFACTURER — Industrial Abrasives is the company that gives you six free belts with every dozen ordered. But, sanding belts are not the only product we have to offer. In our catalog you will find many specialty items not readily available in your hardware store. Price of catalog refunded with first order. INDUSTRIAL ABRASIVES CO. $1.00. *Circle No. 1248.*

WOOD MOISTURE METER — Avoid moisture problems such as cracking, warping, splitting, delamination etc. by using a moisture meter, as described in the latest brochure. Moisture Meter Mini-Ligno is designed for serious hobbyists and woodworkers. Attachments for depth measurements and remote reading during air and kiln drying are available. Available Moisture Range 6-20%, 6-36% or 4-30%, 4-60%. Catalog describes complete line of moisture meters. LIGNOMAT USA, LTD. Free. *Circle No. 1250.*

ROUTER SPEED CONTROL—Reduces speed electronically without reducing torque. Route at the speed that gives best results with the wood and bit you are using. Speed adjustable from full speed to 0 RPM. Less tear out—stops burning—less wear on bits—easy to use. Send today for information. MLCS LTD. Free. *Circle No. 1251.*

DUST COLLECTION SYSTEMS—Our 28 page catalog is filled with all the parts needed to design and install a dust collection system. Flex-hose, spiral hose, blast gates, reducers, y-branches, laterals, elbows, and more. The catalog includes tips on how to go about designing and installing your own dust collection system. As an added bonus we are including a duct calculator, Free. Send now for full catalog, duct calculator, and design information. MANUFACTURERS' SERVICE CO. INC. $2.50. *Circle No. 1252.*

CREATE ANY HOLLW CYLINDRICAL SHAPE — with ¼ in. wall thickness, 12 in. diameter. Ring Master cuts perfect rings in any wood, any angle, any size—stack the rings and create any cylindrical shape. Just glue—sand, & finish, all on the Ring Master. Create matched sets of items. Choose from 3 models, 1 attaches to Shopsmith Mark V, another attaches to Sears Craftsman 12" lathe, the original Ring Master is self-powered. RING MASTER, INC. Free. *Circle No. 1265.*

BITS, BLADES CUTTING TOOLS

BANDSAW BLADES FOR ALMOST ANY TYPE BANDSAW—both wood and metal cutting. Also circular saw blades, router bits, sanding belts and discs. Send for catalog. BUCKEYE SAW CO. $1.00. *Circle No. 1307.*

CARBIDE TIPPED ROUTER BITS AND SHAPER CUTTERS — Over 400 router bits and shaper cutters displayed in catalog featuring 6 piece cabinet sets, 3 piece ½-in-.shank router bit panel raising system, and 3 wing industrial shaper cutters. An outstanding selection of top quality shaper cutters available in ½-in. - 1¼-in. bore, and router bits offered in ¼-in. and ½-in. shank at the industry's best factory direct prices. CASCADE PRECISION TOOL CO. $1.00. *Circle No. 1315.*

INDUSTRIAL QUALITY BAND SAW BLADES—Precision welded to any length for most applications: All woods, steels, stainless steels, non-ferrous metals, cardboard, plastics and more. Widths from ⅛" - 1¼", flexback, hardback, bimetal, special orders. Send for troubleshooting guide to help solve common problems (blade breakage, tooth strippage, etc.). Also included is a blade width selection chart for profile (scroll) sawing. CHANDLER BAND SAW, INC. $1.00. *Circle No. 1316.*

CUTTING TOOLS MADE TO PERFORM—A set of three colorful posters from DML will decorate your woodworking shop and give you fast reference to a complete line of carbide-tipped, industrial-quality cutting tools. Saw blades, router bits and shaper heads (with a diagram of each cut) are all featured with a graphic display of each tool, along with tool capabilities and sizes. DML, INC. $1.50. *Circle No. 1319.*

WOODWORKING TOOLS — Freud provides the finest in hand tools, carbide cutting tools, and hand held power tools. From drills and sanders to carbide saw blades and router bits. Send for catalog. FREUD. $1.00. *Circle No. 1321.*

PRODUCTION QUALITY CARBIDE TIPPED ROUTER BITS — MLCS Ltd. offers a full line of professional production quality carbide tipped router bits at 50-70% lower than retail prices. We sell through the mail and only direct to craftsmen. Send today for information. MLCS LTD. Free. *Circle No. 1350.*

HARDWARE/WOOD PARTS

OUR READY TO ASSEMBLE KITS—for Queen Anne chairs and occasional tables make it easy for you to make professional looking furniture. We also stock individual Queen Anne legs for every project. Complete information in our brochure packet. ADAMS WOOD PRODUCTS. 50¢. *Circle No. 1401.*

SPECIALTY WOODEN PARTS — Hundreds of turned wooden parts in maple, birch, oak, cherry, walnut, and colors for toys, furniture, games, and crafts. Included are Shaker pegs, mug pegs, gallery spindles, wheels, axles, balls, finials, smokestacks, plugs, buttons, people, pegs, cargo, game pieces, knobs, handles, candle cups, stool legs. Bulk prices available. Send for color catalog subscription. CHERRY TREE TOYS, INC. $1.00. *Circle No. 1415.*

HARDWARE CATALOG—A unique 64-page catalog of the very finest in classic, traditional solid brass cabinet hardware. All of British or No. American manufacture. Double & single post handles, knobs, escutcheons, standard & specialty hinges, box hardware, brass screws, castors, latches, catches, locks, and more. GARRETT WADE CO. $2.00. *Circle No. 1427.*

BRASS FURNITURE HARDWARE—This 36-page catalog shows over 500 items of authentic reproduction hardware from the 1700's and on into this century. This fine quality hardware is a must for the furniture craftsman working on a new project, or the refinisher who needs replacement hardware. HORTON BRASSES. $3.00. *Circle No. 1430.*

SQUARE DRIVE SCREWS—Thousands agree—once you try them you will never want to use anything else! The square drive recess virtually eliminates work-damaging driver bit "cam-out," the deep threads result in exceptional holding power, and they are heat treated for strength. Sizes from #4 x ⅜" to #12 x 4", with stainless steel, solid brass, brass plated, and zinc plated available. Quantity discounts. Send for literature. McFEELY HARDWOODS. 75¢. *Circle No. 1450.*

WOODWORKER'S SPECIALTIES—64-page catalog of plans and hard-to-find hardware for woodworkers. Dozens of door harp plans, wood toy plans & accessories, including wood wheels. Also wood turnings, brass hardware, canister liners, stencil supplies, & wood cutouts. MEISEL HARDWARE SPECIALTIES. $1.00. *Circle No. 1455.*

DESIGNER MOULDING—America's most beautiful, hard-to-find genuine wood mouldings add depth and beauty to every room of your house. Hundreds of styles available. Thousands of decorating uses. Prices start at only $3.50/ft. for 8 ft. lengths. In stock for immediate delivery. Full color catalog. R&R WOOD PRODUCTS CORP. $1.00. *Circle No. 1468.*

WOOD TOY PATTERNS — Patterns for all ages including childrens' patterns and executive toys. New catalog has many new patterns to choose from including parts and wheels. Send for new catalog and receive a coupon for free wheels and axle pegs. TOYS AND JOYS. $1.00. *Circle No. 1480.*

QUALITY AMERICAN-MADE WOOD TURNINGS — such as shaker pegs, spindles, toy wheels, toy parts, craft items, and dowel rods in birch, oak, walnut, and cherry. Send for complete 32-page catalog. WOODWORKS. $1.00. *Circle No. 1490.*

INCOME OPPORTUNITIES

AMITY, NATION'S #1 QUALITY FURNITURE RESTORATION CO. SINCE 1971—New product catalog featuring: Complete restoration systems, Hydrocote non-flamable water based stains and finishes, Permafuse repair products, stripping solvents, chemicals and supplies. Amity 1-2-3 wipe-on finishes and much more. Regional workshops in your area. AMITY. $1.00. *Circle No. 1605.*

START SMALL BUSINESS WITH NEW SCROLL SAW—the Excalibur precision scroll saw can turn your workshop into a nice profit center. Make toys and puzzles, do intricate marquetry work or detailed cabinet work with these "operator friendly" machines. Hundreds of satisfied users. Dealer opportunities available. EXCALIBUR MACHINE & TOOL CO. $1.00. *Circle No. 1655.*

WOOD CARVING MACHINES AND ACCESSORIES—make all types of wood carving easy, fun and profitable. The machines do the work. Whether for sign carving, flat 3-D, decoys, panels, gun stocks or furniture, we have the proper machine for the job. Professional woodcarving for the hobbyist and superior quality for the professional. Begin your hobby or full or part-time business by ordering our catalog and price list. MARLIN INDUSTRIES. $1.00. *Circle No. 1659.*

MAKE MONEY IN FURNITURE RESTORATION THE MINUTEMAN WAY—Earn $200-$1000 per day stripping, repairing, refinishing, mirror resilvering, and/or veneering, at home or in shop, spare time or full time. We provide complete free training; no experience necessary. Free workshop teaches you latest in furniture restoration. You have to see it to believe it! Send for catalog. MINUTEMAN. $2.00. *Circle No. 1661.*

BUILDING CONSTRUCTION—Learn how to profit as an independent contractor or save thousands building your own home...with NRI at-home training in Building Construction. 70 lessons, plus over 100 practical hands-on projects cover the full spectrum of construction—from site selection to exterior finishing & landscaping. Send for catalog. NRI SCHOOL OF BLDG. CONSTRUCTION. 25¢. *Circle No. 1665.*

MISCELLANEOUS

MAKE WOODEN TOYS — Whirligigs, doll houses, classic autos, clocks, music boxes, weather instruments, desk sets, games, crafts & furniture with our plans, parts (hardwood and metal), kits (for all skill levels), books, tools, finishes and supplies. Bulk prices available. Send for 60-page color catalog subscription. CHERRY TREE TOYS, INC. $1.00. *Circle No. 1918.*

TO ORDER THESE BOOKLETS, USE COUPON ON PAGE 102

MAKE WOODEN CLAMPS — Save 60%. Kits and plans for 8, 10, and 12 in. wooden handscrew clamps. Acme threaded steel rods, components, handles and full-sized plans provided. Kits also available with uncut and precut maple jaws. You decide how much you want to save. Also available are hundreds of plans, kits, parts, and supplies for wooden toys and whirligigs in our beautiful color catalog. CHERRY TREE TOYS, INC. $1.00. *Circle No. 1919.*

FOLEY-BELSAW INSTITUTES' NEW WOODWORKING CORRESPONDENCE COURSE—for people with the desire to learn how to work with wood and the proper use of tools. Create over 20 projects using professional plans and tools like a table saw, router with stand, and more...all included with the course. Complete money-back guarantee. Send for details. FOLEY-BELSAW INSTITUTE. Free. *Circle No. 1930.*

LEARN ALL THE SKILLS—of professional upholstering and refinishing techniques in the comfort of your own home. The Foley-Belsaw Institute system of "hands on" training provides clear, step-by-step instructions in the use of tools and materials on actual furniture "kits"...all included with the course. Complete money-back guarantee. Send for details. FOLEY-BELSAW INSTITUTE. Free. *Circle No. 1931.*

JOHN HYMILLER WOODWORKER—is a third generation master finisher and woodworker offering one week courses, as well as mail order European tool and machinery sales. Customers are given expert advice on their purchases. School info, testimonial and tool catalog. JOHN HYMILLER. $5.00. *Circle No. 1960.*

THE CUSHION CONTOUR SANDER — is a new concept in pneumatic drum sanding. Sanding sleeves are slid over an air bag (inflated with a hand tire pump) on an arbor to mount it between centers on a wood lathe. Drum effectively takes on profiles, curves, and bevels practically eliminating flat spots and chatter marks. INDUSTRIAL ABRASIVES CO. $1.00 (refunded with first order). *Circle No. 1976.*

BANDSAW OWNERS — A new tool is now available so you can make or repair any length bandsaw blade in minutes. Our splicer enables craftsmen to make up any length blade from economical coil blade stock quickly and easily. Three models are currently available to accomodate blade widths from ⅛ to 1½ in. The tool comes complete with detailed instructions and supplies. We also carry OLSON bandsaw stock at reasonable prices. Send for literature. NEW MILFORD SPECIALTIES CO. 50¢. *Circle No. 2025.*

ATTENTION! ANTIQUE RESTORERS! WOODWORKERS! COLLECTORS! AND HOBBYISTS!—This 192-page wholesale catalog is loaded with unique, hard to find items! Includes hundreds of essential antique restoration parts, brass reproduction hardware, oil lamps and accessories, wood parts, caning, basketry, upholstery, and art supplies, wood refinishing products, tools, books, etc. VAN DYKE'S RESTORERS. $1.00. *Circle No. 2077.*

UNIQUE GREENHOUSE/SCREENHOUSE IDEA—A gardener's paradise during the winter months, a bug-free screen room during the summer months. That's the concept behind the versatile new Sun-Porch. This two-in-one sunspace features sturdy aluminum framing, 1" shatter-resistant glazing, do-it-yourself assembly, and mounts readily on decks, patios, landscape ties. Color catalog includes models, prices; sent first class mail. VEGETABLE FACTORY, INC. $2.00. *Circle No. 2078.*

SERIOUS WOODWORKERS—In our shop we offer the finest: INCA, Jet, Konig, RBI, Ryobi, Virutex, Apollo—Keller, Leigh, Excalibur, Portalign—Freud, Byrom, Onsrud—3M, Walco, Behlen's—Imported and U.S. made hand tools—Hardwoods, domestic & exotic—Veneers—Craft plywoods—Books & magazines—Quality, Service and competitive prices. WOODCRAFTERS SUPPLY CO. $2.00. *Circle No. 2080.*

WOODWORKING ASSOCIATION OF NORTH AMERICA — First international association for woodworkers. Benefits include our quarterly magazine *International Woodworking*, specials from selected manufacturers, group health and life insurance, access to the woodworking network. WOODWORKING ASSOC. OF NORTH AMERICA. 50¢. *Circle No. 2092.*

CARVING SUPPLIES

DECOY AND WOOD CARVERS WISHBOOK—48-page catalog features wide selection of tools and supplies for decoy carvers, wood carvers, wood turners. Chisels, gouges, sharpening stones, precision grinding tools, Foredom tools, Fire Brush burners, pneumatic sanders, glass eyes, pewter feet, patterns, paints, reference books. P. C. ENGLISH, INC. Free. *Circle No. 2115.*

WOODCARVING TOOLS — Whittlers and carvers — Warren Tool Co. offers a catalog for you full of whittling and carving hand/power tools, books, stones, wood, and supplies. Since 1927, the finest in woodcarvers tools. WARREN TOOL CO., INC. $1.00. *Circle No. 2185.*

CLAMPS

MERLE ADJUSTABLE CORNER CLAMP — Quick & easy to use. Fully adjustable from 2⅝" to 69x69 in. Perfect for clamping picture frames, cabinets, or anything that requires 90° corner clamping. The Merle Clamp is cast aluminum & steel construction, a true industrial quality tool. Send today for information. MLCS LTD. Free. *Circle No. 2250.*

CLOCKS

BUILD HEIRLOOM CLOCKS — Now create beautiful heirloom quality clocks right in your own home. Choose from magnificent chiming grandfather clocks to charming wall clocks. 32-page catalog also offers a selection of music boxes, music movements, traditional barometers, and a huge variety of quartz movements and dials for custom clock building. Satisfaction guaranteed. CRAFT PRODUCTS CO. Free. *Circle No. 2320.*

KLOCKIT'S FREE 64-PAGE COLOR CATALOG—is packed with the largest selection of beautiful wood clock kits for all skill levels, a huge selection of quartz and mechanical clock movements, dials and accessories, turned wood parts, music movements, tools and much more for the craftsmen! KLOCKIT. Free. *Circle No. 2335.*

HOME PLANS

HOME PLANS FOR OUTDOOR LIVING—Finally, a book that has the inside story on home designs for people who want to enjoy the great outdoors. Beautifully illustrated, this 192-page plan book showcases more than 100 houses, each designed to make indoor-outdoor living a real experience. Plans include houses with many of today's most-asked-for features: terraces, decks, porches, balconies, courtyards, sunspaces, atriums, swimming pools, spas, more. Construction blueprints available. HOME PLANNERS, INC. $10.95. *Circle No. 2530.*

EARLY AMERICAN HOME PLANS—New 304 page Home Planners book with over 330 houses and plans. Features Gambrel, Salt Box, Cape Cod, Garrison, Southern Colonial and Farmhouse adaptations. Historical notes include a delightfully informative guide to Early American styles. One, 1½, and 2-story houses highlight country kitchens, breakfast, formal dining and gathering rooms. Also, libraries, lounges, sunspaces, clutter rooms. Homes for all budgets. Blueprints available. Satisfaction guaranteed. HOME PLANNERS, INC. $9.95. *Circle No. 2531.*

315 ONE-STORY DESIGNS UNDER 2,000 SQ. FT.—An outstanding collection of designs from 864 to 1,997 sq. ft. Distinctive exteriors of popular design styles and practical, convenient living floor plans. Over 925 illustrations and 192 pages. Homes for restricted and modest building budgets. Feature sections include Tudor, Spanish, French, Traditional and Contemporary houses. Blueprints available. HOME PLANNERS, INC. $4.95. *Circle No. 2532.*

CARPETS

QUALITY!—Everyone wants it,but not everyone knows how to recognize it. "Understanding Carpet Quality" is an informative, easy-to-read booklet that helps you identify long-term performance characteristics in nylon saxony carpets. Also discusses how to shop for carpet, how to read and understand carpet warranties. ARMSTRONG. Free. *Circle No. 2610.*

CEILINGS

TOF OFF—your remodeling project with a good-looking, functional Armstrong tile ceiling or suspended ceiling. You can choose from a wide variety of patterns, from plain white to decorative to warm "wood" grain. Want peace and quiet? Select an acoustical ceiling. It absorbs a minimum of 45% of the noise striking its surface. Send for color brochure that tells you all you need to know. ARMSTRONG. Free. *Circle No. 2710.*

FLOORS

SURPRISED—That's what you'll be by the sheer variety of Armstrong no-wax floors—hundreds of patterns and colors to choose from, a wide range of prices, even many you can install yourself. To help you pick the no-wax floor that's right for you, Armstrong has prepared an information packet that explains what you need to know to shop intelligently. Contains planning guides, brochures on most Armstrong lines, and color photographs of beautifully decorated rooms. ARMSTRONG. Free. *Circle No. 2810.*

Information

WORTH WRITING FOR

Better Homes and Gardens®
WOOD MAGAZINE, August 1989
Dept. JAWO89
P.O. BOX 5103
Pittsfield, MA 01203-5103

TO ENSURE PROMPT HANDLING OF YOUR ORDER FOLLOW THESE INSTRUCTIONS:

- **Circle your choice**
- **Enclose check or money order for cost of booklets plus $2.00 service charge (no stamps/foreign)**
- **Send coupon and remittance to address above**
- **ALLOW 4-6 WEEKS FOR DELIVERY**
- **Coupon expires August 13, 1990**

WOOD SUBSCRIPTION

1. A 1 year WOOD subscription (6 issues) for $18.00 (U.S. price) — a $3.00 savings off newsstand rate. Allow 6-8 weeks for first issue. Canadian price $24.00. Be sure to include payment with total below. NO FOREIGN ORDERS ACCEPTED ON THIS COUPON; please contact Subscription Dept. directly.

FREE LITERATURE

Circle numbers below corresponding to items in this issue.
Please include $2.00 for handling charge

17.	42.	84.	565.	1017.	1930.	2610.
18.	44.	85.	715.	1185.	1931.	2710.
19.	57.	99.	860.	1250.	2115.	2810.
20.	61.	100.	878.	1251.	2250.	
33.	76.	215.	955.	1265.	2320.	
41.	77.	270.	975.	1350.	2335.	

PRICED LITERATURE

Numbers below refer to items on which there is a charge.
Please include proper remittance.

3 .... $1.00	160 .... $1.00	454 .. $10.45	810 .... $1.00	1129 .... $1.00	1430 .... $3.00	2025 ..... 50¢
4 .... $1.00	190 .... $1.50	455 .. $11.45	820 .... $1.00	1140 .... $2.00	1450 ..... 75¢	2077 .... $1.00
6 .... $2.00	232 .... $1.00	456 .. $10.45	853 .... $2.50	1235 ..... 25¢	1455 .... $1.00	2078 .... $2.00
51 .... $1.00	302 .. $11.45	457 .. $10.45	855 .... $4.00	1245 .... $1.00	1468 .... $1.00	2080 .... $2.00
56 .... $1.00	310 .... $2.00	480 .... $1.00	890 .... $1.00	1247 .... $1.00	1480 .... $1.00	2092 ..... 50¢
78 .... $1.00	315 .... $1.00	510 .... $1.00	900 .... $4.00	1248 .... $1.00	1490 .... $1.00	2185 .... $1.00
87 .... $1.00	332 .... $1.00	520 .... $1.00	920 .... $1.00	1252 .... $2.50	1605 .... $1.00	2530 .. $10.95
88 .... $1.00	340 .... $1.00	525 .. $10.00	935 .... $2.00	1307 .... $1.00	1655 .... $1.00	2531 .... $9.95
90 .... $1.00	344 .... $2.00	545 ..... 50¢	945 .... $5.00	1315 .... $1.00	1659 .... $1.00	2532 .... $4.95
93 .... $1.00	345 .... $2.00	563 .... $2.00	1005 .... $1.00	1316 .... $1.00	1661 .... $2.00	
94 .... $1.00	355 .... $8.00	578 .... $2.00	1015 .... $3.00	1319 .... $1.50	1665 ..... 25¢	
96 .... $1.00	370 .... $1.00	592 .... $1.00	1030 .... $1.00	1321 .... $1.00	1918 .... $1.00	
105 ..... 25¢	390 .... $1.00	670 .... $5.00	1050 .... $2.00	1401 ..... 50¢	1919 .... $1.00	
112 .... $2.00	395 .. $10.95	801 .... $2.00	1060 .... $2.00	1415 .... $1.00	1960 .... $5.00	
115 .... $2.00	398 .... $1.00	803 .... $1.00	1080 .... $1.00	1427 .... $2.00	1976 .... $1.00	

Name (please print) _____

Address _____

City _____

State _____ Zip Code _____

I AM ENCLOSING:

$_____ for priced items

$ 2.00 for handling

$_____ total remittance

ORDER TOLL FREE 1-800-328-0457 – MAIL ORDER HOURS 7:00-5:30 C.S.T. MONDAY-FRIDAY

DELTA BENCH TOP TOOLS

Model		List	Sale
23-700	Wet/dry grinder	201	139
23-680	6" bench grinder ¼ H.P.	81	62
23-980	8" bench grinder ½ H.P.	135	99
23-980	10" bench grinder 1 H.P.	246	220
11-950	8" drill press	164	125
14-040	14" drill press	313	259
40-150	15" hobby scroll saw	178	129
28-160	10" hobby band saw	189	135
31-950	1" belt sander 2.0 amp.	93	69
31-460	4" belt/6" disc sander	178	125
31-340	"NEW" 1" belt/8" disc sander	226	159

DELTA STATIONARY

34-761	10" unisaw 1½ H.P	1715	1339
34-740	Super 10" motorized table saw	690	399
34-429	10" tilting arbor bench saw 1½ H.P.	1479	999
33-990	10" radial arm saw	727	555
11-072	32" radial drill press	487	375
37-280	6" motorized jointer	440	335
50-179	¾ H.P. 2 stage dust collector	435	339
50-180	1 H.P. dust collector	535	425
50-181	2 H.P. dust collector	760	615
37-154	Deluxe DJ-15 6" jointer w/¾ H.P. motor	1288	979
33-050	"NEW" 8¼" Sawbuck	742	559
34-330	"NEW" 8¼" Table Saw 13A	321	245
34-670	10" motorized table saw	437	325
34-985	¼ H.P. stock feeder	698	545
28-560	16" 3 wheel band saw	546	359

MILWAUKEE TOOLS

0395-1	"NEW" 9.6V cdlss. drill comp. w/case	264	159
0224-1	⅜" drill 4.5A magnum	179	110
0234-1	½" drill 4.5A mag 0-850 rpm	189	107
0244-1	½" drill 4.5A mag 0-600 rpm	189	107
0222-1	⅜" drill 3.5A 0-1000 rpm	169	97
0228-1	⅜" drill 3.5A 0-1000 rpm	154	90
0375-1	⅜" close quarter drill	208	119
0379-1	½" close quarter drill	243	139
0212-1	⅜" cordless drill w/spd.	263	149
6539-1	Cordless screwdriver 190 rpm	108	64
6540-1	Cdlss. screwdriver w/bits & cse	137	89
6546-1	Cdlss. screwdriver 200 & 400 rpm	120	72
3102-1	Plmbrs rt angle drill kit	295	175
3002-1	Electricians rt angle drill	290	175
5399	½" D-hdle ham drill kit	299	179
1676-1	H.D. Hole Hawg w/cs	395	229
6511	2 sp SawZall w/cs	209	119
6405	8¼" circle saw	209	120
6750-1	Drywall gun 0-4000 4.5A	149	89
6798-1	Tek screwdriver	173	105
6507	TSC SawZall w/case	219	129
6170	14" chop saw	430	275
6012	Orbital sander 3⅝"x7⅜"	179	105
6014	Orbital sander 4½"x9¼"	189	110
6305	6¼" cordless circle saw	284	165
6753-1	Drywall gun 0-4000 3.5A	129	80
6977	Var. temp heat gun	109	70
0214-1	⅜" v. spd. cordless drill	220	125
5397-1	⅜" v. spd. hammer drill kit	227	135
5371-1	½" v. spd. hammer drill kit	313	179
3107-1	½" v. spd. rt angle drill kit	305	179
6754-1	Drywall gun 0-4000 4.5A	179	110
6747-1	Drywall driver-0-2500 4.5A	149	87
0230-1	⅜" drill 0-1700 rpm	169	99
3300-1	½" v. spd. magnum rt angle kit	289	179
5620	Router 1 H.P.—8 amp	289	169
5660	Router 1½ H.P.—10 amp	299	179
5680	Router 2 H.P.—12 amp	350	205
5455	⅞" polisher 1750 rpm	199	125
6215	16" chain saw	280	189
8975	Heat gun	85	55
6366	7¼" circular saw	198	112
6368	7¼" circular saw w/case	226	129
0216-1	2 spd cordless drill Hi-torque	222	145
0235-1	½" drill keyless chuck mag	199	115
6016	¼ sheet pad sander	75	44
6145	4½" grinder 10,000 rpm	149	95
6142	"Same as 6145" but w/case & accessories	182	114
6141	5" grinder 10,000 rpm	159	99
8950	8 gal wet/dry vac	205	145
0239-1	½" drill keyless chuck	189	114
6749-1	Drywall gun 0-2500 4.5A	189	115
6377	7¼" worm drive saw	275	159

FREUD SAW BLADES

⅝" Bore—Industrial Grade

CARBIDE TIPPED SAW BLADES

Item No.	Description	Diam.	Teeth	List	Sale
LU72M010	Gen Purp.ATB	10"	40	77.49	34
LU81M010	Gen. Purp TiCh	10"	40	79.32	39
LU82M010	Cut-off	10"	60	98.89	42
LU84M011	Combination	10"	50	85.25	35
LU85M010	Super Cut-off	10"	80	126.99	50
LM72M010	Ripping	10"	24	74.22	30
LU73M010	Cut off	10"	60	91.16	37
LU67M010	Thin kerf	10"	24	56.90	35
LU88M010	Thin kerf	10"	60	69.90	43
PS203	Gen'l Purp	7¼"	24	31.42	16
PS303	Plywood	7¼"	40	37.74	22
DS306	6" Dado - Carbide			168.13	98
DS308	8" Dado - Carbide			205.89	110
F0	1⅜"x⅝" Biscuits 1000-Qty				25
F10	2⅛"x¾" Biscuits 1000-Qty				25
F20	2⅛"x1" Biscuits 1000-Qty				25
FA	Assorts Biscuits 1000-Qty				28
WC104	4 pce. chisel set w/cse ¼"-1"			39	33
WC106	6 pce. chisel set w/cse ¼"-1"			52	43
WC110	10 pce. chisel set w/cse ¼"-1½"			88	63
FB100	16 pce forstner bit set ¼"-2¼"			262	149
94-100	5 pce router bit door system			260	159
JS100	Biscuit Jointer w/case			285	154
EB100	"NEW" edge banding machine			350	289

MAKITA CORDLESS

Model		List	Sale
6070DW	⅜" var. spd. rev. drill, 7.2v	123	75
6071DWK	⅜" var. spd. rev. drill w/removable batt, 7.2v	190	105
5090DW	3⅜" saw kit, 9.6v	243	129
5600DW	6¼" circular saw, 10.8v	317	169
6010DWK	⅜" cordless drill kit, 7.2v	155	89
6010SDW	⅜" cordless drill, 7.2v	103	59
DA3000DW	⅜" angle drill, 7.2v	238	130
4390DW	9.6 volt cdls. recip saw kit	218	124
6010DL	⅜" drill w/flashlight, 7.2v	198	113
6012HDW	2 spd. driver drill w/clutch & case*, 9.6v	224	115
6710DW	Cordless screwdvr kit, 7.2v	185	103
6092DW	V/spd. drill, kit complete	237	120
6093DW	V/spd. drill w/clutch—complete	248	129
6891DW	Drywall gun 0-1400, 9.6v	225	119
632007-4	9.6 volt battery	49	30
632002-4	7.2 volt battery	42	28
2012	BRAND NEW 12" portable planer	885.50	519
5007NBA	7¼" saw w/elec. brake	228	125
5008NBA	8¼" saw w/elec. brake	276	145
804510	¼ sheet pad sander	80	46
9900B	3"x21" belt sander w/bag	254	145
9924DB	3"x24" belt sander w/bag	268	149
9035	½ sheet finish sander	106	65
9045B	½ sheet finish sander	216	125
9045N	½ sht fin. sand. w/bag	219	127
4200N	4¾" circ. saw 7.5 amp	213	119
5201NA	10¼" circ. saw 12 amp	560	290
4301BV	Orb. v/sp jig saw 3.5 amp	274	145
JR3000WL	2 sp recip saw w/case	220	122
JR3000V	Vs. recip saw w/case	224	125
LS1020	New 10" mitre saw	440	235
9820-2	Blade sharpener	354	199
410	Dust collection unit	480	269
3705	Offset trimmer	255	139
1900BW	3¼" planer w/case	198	115
1100	3¼" planer w/case	381	225
9207SPC	7" sander-polisher	262	145
3601B	1⅜ H.P. router	242	134
3700B	½ H.P. trimmer	180	105
9501B	4" grinder, 3.5 amp	137	69
804530	6" round sander	95	56
804550	¼ " sheet pad sander w/bag	85	55
DA3000R	⅜" angle drill	256	145
DP4700	½" v/sp w/rev. 4.8 amp	198	119
HP2010N	¾" v/sp hammer drill w/case	285	149
2708W	8¼" table saw	474	249
2711	10" table saw w/brake	800	460
GV5000	Disc sander 5"	109	65
6800DB	2500 rpm 3.5 amp	140	89
6800DBV	0-2500 rpm 3.5 amp	154	95
6801DB	4000 rpm 3.5 amp	140	89
6801DBV	0-4000 rpm 3.5 amp	154	95
2030N	12" planer/jointer	2970	1625
2040	15⅜" planer	2470	1389
1805B	6¼" planer kit w/case	645	355
JV1600	var. speed jig saw	220	125
JV2000	var. speed orb. jig saw	242	130
5005BA	5½" circular saw	211	119
9503BH	4½" sander-grinder	153	85
6404	⅜" drill 0-2100 rpm, 2 amp	102	60
6510LVR	⅜" drill rev. 0-1050 rpm	137	79
5402A	16" circular saw - 12 amp	605	329
3612BR	3 H.P. plunge router	376	199
9401	4"x24" belt sander w/bag	302	169
3620	1¼ H.P. plunge router w/case	182	105
4302C	V/spd. orb. jig saw	287	152
5077B	7¼" Hypoid saw	248	139
LS1440	14" Mitre saw	624	409
2414	14" cut-off saw AC/DC	350	195
5007NB	7¼" circ saw 13 amp	209	119
3612B	3 HP plunge router sq/b	376	205

SKIL SIZZLERS

Model		List	Sale
5510	(551) 5½" circ saw	112	92
5625	(552) 6½" circ saw	175	115
5656	(553) 7¼" circ saw	132	105
5665	(554) 8¼" circ saw	204	125
5750	(807) 7¼" circ - drop foot	198	122
5765	(808) 8¼" circ - drop foot	216	135
5790	(810) 10¼" circ - drop foot	400	245
5825	(367) 6½" worm saw	229	139
5865	(825) 8¼" worm saw	250	149
4580	Vari - orbit jig saw w/case.	144	95
3810	10" Mitre saw	263	195
595	3"x21" sander w/bag 5.5A	197	125
7565	¼" palm sander	52	34
7313	3x18 belt sander 4.5A	72	58
77	7¼" worm drive	230	137
5350	2½ HP circ. saw	80.99	69
5250	2¼ HP circ. saw	68.99	59

XTRA SPECIAL BY SKIL

2735-04	12v V.Spd. Cordless Drill comp. w/case & 2 Batt.	210	128

LEIGH DOVETAIL JIGS

D1258-12—List 314.00—Sale 265.00

D1258-24—List 375.00—Sale 305.00

HITACHI TOOLS

Model		List	Sale
TR6	Trimmer	177	95
TR8	Plunge router, 1½ H.P.	219	119
TR12	Plunge router, 3 H.P.	354	175
C10FA	10" dlxe. mitre saw	490	265
C8FB	8½" slide compound saw	859	479
C15FB	15" mitre saw	745	395
FREUD	LU85M015 - 15" Carbide Blade 108 Tooth	181	115

1989 TOOL CATALOG AVAILABLE

Call Toll-Free 1-800-328-0457 — In Minnesota Call (612) 224-4859

CHECK — MONEY ORDER — VISA — MASTERCARD — DISCOVER

SEVEN CORNERS ACE HDW. Inc.

216 West 7th St. • St. Paul, MN 55102 • Est. 1933

DELTA TOOLS

34-444 10" Table Saw Complete w/1½ H.P. motor & stand 599.00

33-150 8¼"Saw Buck 519.00

33-890 12" Radial Arm Saw 1½ H.P. complete w/legs 1139.00

28-283F 14" Band Saw w/enclosed stand & ¾ H.P. motor 699.00

22-561 NEW 13" Planer 1095.00

17-900 16½" Floor Drill Press 329.00

40-601 18" Scroll Saw w/stand and blades 579.00

DELTA #34-080 10" MITRE BOX XTRA SPECIAL 189.00 List 289.00

TOOLS ON SALE™

AMERICA'S LOWEST PRICED TOOLS

FREE FREIGHT TO THE 48 CONTINENTAL STATES ON EVERY ITEM.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PIRANHA By Black & Decker

CARBIDE TOOTH SAW BLADE

Model#	Diameter	#Teeth	List	Sale
73-716	6-1/2	18	13.10	7.10
73-756	6-1/2	36	28.96	16.30
73-717	7-1/4	18	13.14	7.10
73-737	7-1/4	24	16.36	9.00
73-757	7-1/4	40	29.72	16.35
73-758	8	40	42.04	24.15
73-759	8-1/4	40	42.86	24.60
73-719	8-1/4	22	18.96	10.60
73-739	9	30	31.48	17.85
73-769	9	60	66.58	38.95
73-740	10	32	32.98	18.95
73-770	10	60	67.02	36.90
73-715	5-1/2	16	13.00	7.30

STYLE 32 PONY SPRING CLAMPS

with coated tips and handles

Model	Size	List	Sale Ea.	Lots of 25
3201-HT	1"	1.89	1.25	24.75
3202-HT	2"	2.78	1.80	37.15
3203-HT	3"	5.22	3.40	67.50
3204-HT	4"	9.48	5.40	115.85

ADJUSTABLE HANDSCREWS BY JORGENSEN

Item No.	Jaw Length	Open Cap	List	Sale	Box of 6
#5/0	4"	2"	12.88	7.75	43.00
#4/0	5"	2½"	13.83	7.95	45.30
#3/0	6"	3"	14.83	8.35	47.60
#2/0	7"	3½"	15.94	8.95	51.00
#0	8"	4½"	17.74	10.25	58.40
#1	10"	6"	20.29	11.95	68.10
#2	12"	8½"	23.29	13.75	78.00
#3	14"	10"	29.53	17.85	101.75
#4	16"	12"	38.38	23.00	131.95

STYLE 37 2½" Throat ¼"x¾" JORGENSEN

Item No.	Jaw Length	List	Sale	Box of 6
3706	6"	8.86	5.75	32.50
3712	12"	9.81	6.25	35.00
3718	18"	10.83	6.85	37.50
3724	24"	11.83	7.35	40.00
3730	30"	13.19	8.25	45.00
3736	36"	14.43	8.95	49.00

PONY CLAMP FIXTURES

Model		List	Sale	Lots of 12
50	¾" black pipe clamps	12.48	7.50	80
52	½" black pipe clamps	10.41	6.00	65

STYLE J. ADJUSTABLE HANDSCREW KITS

Model	Length Jaws	List	Sale
J04	4	7.10	4.99
J06	6	8.13	5.29
J08	8	9.12	5.89
J10	10	10.65	6.39
J12	12	13.21	7.69

BOSCH

Model		List	Sale
1581VS	Top hdle jig saw	235	129
1582VS	Barrell grip jig saw	220	119
Bosch metal case for above jig saws		34	26
Bosch blade assortment for jig saws 30 of Bosch's best selling blades		23.99	
1942	Heat gun 650°-900°	99	69
1272D	3"x24" B.S. w/bag	299	168
1273D	4"x24" B.S. w/bag	315	178
11-212	Bulldog ¾" SDS rotary	339	189
1196VSRK	¾" vs hammer drill	215	110
1198VSR	½" vs hammer drill	229	125
1608	5.6 amp lam trimmer	140	85
1608L	Same as above w/trimguide	145	88
1608T	5.6 amp tilt base trim	159	92
1609	5.6 amp offset base trim	205	122
1609K	Lam installers kit w/1609	295	165
Offset base, trimmer tilt base, trimguide, ¼" collet, collet nut, wrenches, hex keys and case			
1601	1 H.P. Router 25,500 rpm	165	99
1602	1½ H.P. Router 25,000 rpm	199	115
1603	1½ H.P. D handle Router	223	125

The famous Bosch 1604 1¾ h.p. Router List $219 Super Spec. $119

1606	1¾ H.P. D hdle. Router	243	135
3258	3¼" planer w/blade guard	210	135
3258K	3258 planer w/case.	235	149
3270D	3"x21" belt sander w/bag 5A	225	135
1273DVS	Var spd. 4"x24" 6 speed range sander 10.5 amp	339	185
1611	3 H.P. plunge router	349	198
1611EVS	"NEW" 3 H.P. elec. v/spd plunge router	410	255
1651	7¼ circ. saw drop foot	179	99
1654	7¼ circ. saw pivot base	179	99
1922K	Cdlss. jig saw w/case.	239	165
921VSRK	⅜" cdlss. drill v/spd. w/clutch and case	235	135
1632VSRK	Recip. saw 8.4A orb. v/spd.	225	129
11-304	"The Brute" breaker hammer	1950	1185

BOSTITCH AIR NAILERS

Model		List	Sale
N80C-1	Utility coil nailer	730	399
N80S-1	Stick nailer	760	409
T36-50	Sheathing & decking stapler	550	305
N12B-1	Coil roofing nailer	725	399
N60FN-2	Finishing nailer	595	335
T31	Brad nailer	245	145

SENCO AIR NAILERS

Model		List	Sale
SFN1	Finishing nailer 1" - 1¾"	377	288
SFN2	Finishing nailer 1½" - 2½"	571	435
SN2	General purpose 1⅛" - 2⅜"	621	465
M2	General purpose 1⅜" - 2"	475	359
SN4	General purpose 2" - 3"	685	515
LS2	Pinner ⅝" - 1"	351	259
SKS	Stapler	351	259
LS5	Pinner. 1"-1½"	399	305
PW-RFR	Roofer, ½"-1¼"	351	269

WORKMATES By Black & Decker

Model		List	Sale
79-029	#85, 18#	63.00	42.00
79-032	#200, 23#	103.00	69.00
79-033	#300, 28#	117.00	75.00
79-034	#400, 35#	152.00	99.00

BLACK & DECKER DEALS

1707	8½" crosscut mitre saw	813	469
1166	⅜" drill, 4A, 0-2500 rpm	96	55
2037	0-4000 5 amp drywall gun	160	92
1703	10" mitre saw w/73-770 blade	313	169
2660	0-4000 4.5 amp drywall gun	138	87
4015	½ sheet sander 3 amp	190	109
2600	⅜" 0-1200 4.5 amp drill	125	79
3047-09	7¼" super saw cat w/brake	282	164
3048-09	8¼" super saw cat w/brake	297	174
3157	Orb v/spd. jig saw	202	125
3153	V/spd. jig saw	195	120

BLACK AND DECKER

"NEW" 29 pce. Bullet Drill Bit Set

Model 14769 Black Oxide Bits

LIST 168.00 SPECIAL SALE 84.95

RYOBI SPECIALS

Model		List	Sale
JP155	"NEW" portable 6" jointer/planer	545	329
R500	2¼ H.P. plunge router	326	159
TS251U	10" mitre saw	392	169
TS251US	10" mitre w/acc. kit & 60 tooth carbide blade	435	199
AP10	10" surface planer 13 amp	820	358
RA200	8¼" radial arm saw	515	235
RE600	3 H.P. plunge router	398	199
R150K	1 H.P. plunge router w/case	206	99
BE321	3"x21" v/spd. belt sander	259	125

PORTER CABLE

Model		List	Sale
630	1 H.P. router 6.8 amp	170	110
690	1½ H.P. router 8 amp	215	119
691	1½ H.P. router D hdle	235	133
536	1½ H.P. speedmatic router	310	195
518	3 H.P. 5 speed router	560	339
520	3 H.P. 15 amp router	510	319
309	3.8 amp lam trimmer	135	85
310	3.8 amp H.D. lam trimmer	190	114
312	Offset base lam trimmer	215	120
319	Tilt base lam trimmer	221	129
695	1½ H.P. router/shaper	299	190
696	H.D. shaper table	165	115
351	3"x21" belt sander w/o bag	215	125
352	3"x21" belt sander w/bag	225	125
360	3"x24" belt sander w/bag	310	175
361	3"x24" belt sander w/o bag	290	170
362	4"x24" belt sander w/bag	325	185
363	4"x24" belt sander w/o bag	310	179
7556	½" right angle drill	295	175
315-1	7¼" top hdle 13 amp circ saw	195	115
9315-1	315-1 comp w/case & carb. bld.	225	129
517	7¼" pushhandle 13 amp	195	115
9617	617 comp. w/case & carb. bld.	225	129
368-1	8¼" top handle 13 amp	205	135
314	4½" trim saw 4.5 amp	205	119
548	X HD bayonet saw	255	165
9548	X HD bayonet saw w/case	275	175
9529	Recip saw v/sp 8 amp	230	133
9627	Recip saw 2 speed 8 amp	220	125
566	⅜" H.D. vsp drill - Hdl	185	122
621	⅜" H.D. v spd. 0-1000 rpm	155	95
320	Abrasive plane 3 amp	150	99
126	Porta plane 7 amp	290	185
9118	Porta plane 7 amp kit	325	185
9652	Versa plane 10 amp kit	430	275
7545	0-2500 drywall gun 5.2 A	169	105
7540	0-4000 5.2 amp gun	165	105
505	½ sheet pad sander	195	109
7511	⅜" v spd. drill 5.2 amp	185	105
7514	½" v spd. drill 0-750	195	114
303	Paint remover	230	149
304	7" disc sander 4000 rpm	195	125
305	7" disc polisher 2000 rpm	195	125
357	3¼" planer 6.5 amp	225	148
537	1½ H.P. D hdle router	325	199
7548	Top hdl jig saw 4.8 amp	215	119
7648	Barrel grip jig saw 4.8 amp	210	119
330	Speed block sander ¼ sht	97	55
555	Plate biscuit jointer 5A w/case	280	155
345	6" saw boss 9 amp	160	99
5060	"Stair Ease" stair templet	194	125
5061	"Stair Ease" hard wood stair templet	204	135
659	0-4000 drywall gun 4 amp	130	79
100	⅞ H.P. router	160	94
399	Drywall cutout unit	110	69
5008	Dovetail template kit	99.50	75
5009	Mortise & Tenon jig	54.95	40
5002	"NEW" stub-tile plastic pipe cutter	99.95	75
308	"NEW" laminate slitter	189	135
5116	"NEW" omni-jig	395	269
9647	TIGER CUB recipro saw	185	119
9850	12 volt cordless driver/drill comp w/charger-batt-case	210	129
8500	Extra 12v battery	48	33

FREE FREIGHT TO THE 48 CONTINENTAL STATES ON EVERY ITEM.

FINISHING TOUCHES

SEE HIM SAW. PBS ADDS TO WOODWORKING PROGRAMS

First it was Roy Underhill in *The Woodwright's Shop*. Then came *Carving with Rick Butz*. And now, bless them, the Public Broadcasting Service has introduced yet another program for woodworkers—*The New Yankee Workshop*—featuring Norm Abram, the carpenter on the home-renovation series *This Old House*.

In each episode, Norm guides viewers through the steps of building a piece of furniture with power tools. And, documentary footage explains that particular piece's place in history. Project plans are also offered. You can buy Norm's accompanying book, *The New Yankee Workshop* (Little, Brown and Company. N.Y., $12.95, paperback), at bookstores. Check your local television listings for air times of all these woodworking programs.

Norm Abram, PBS TV's Yankee furnituremaker, bandsaws a part for what will be a chest of drawers.

DELTA SAYS "MUSH, HUSKIES!"

Admiral Byrd took 75 Delta power tools, donated by the manufacturer, along on his 1933 expedition to the South Pole. This month, the dogsleds of the Trans-Antarctica expedition—built on a Delta Unisaw—begin a 3,700-mile journey across the polar expanses.

Delta furnished a 10" tablesaw to help construct the expedition's 42 specially designed dogsleds. The runners, laid up in alternating layers of graphite fiber and Sitka spruce, "...have properties similar to flexible steel," according to David R. Shield, the expedition's training camp manager. Before the Unisaw's arrival, precision-cutting the runners proved impossible.

The expedition will attempt the first East-West traverse of the antarctic continent. Led by American Will Steger, the team includes representatives from France, the Soviet Union, Japan, Great Britain, and China.

Antarctic explorers Dave Shield, left, and Will Steiger, relied on a Delta Unisaw when they built their expedition's dogsleds.

BOARDS OF EDUCATION

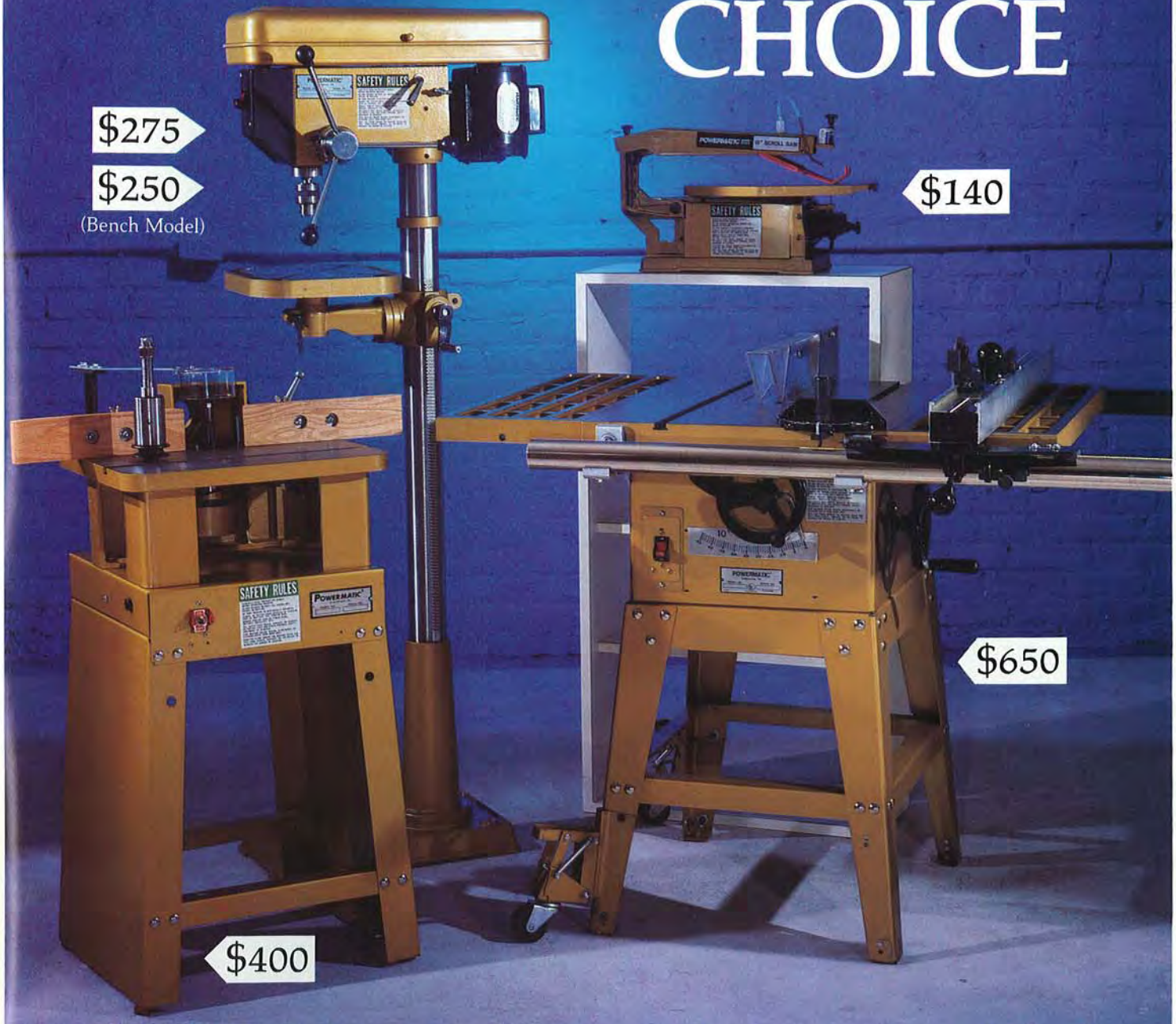
Yale University once claimed the largest known assemblage of wood species samples—more than 52,000. The Samual J. Record Wood Collection, now at the Forest Service's Forest Products Laboratory, in Madison, Wis., represents the 40-year attempt of the late Samual Record and associate Robert Hess to study and catalog all tropical woods. A Yale spokesman explained that the school could no longer house the collection.

PLANNING AHEAD ON PINE

Southern Illinois' first settlers found the region's abundant oak, hickory, and maple trees a real concern. What would they make coffins from? After all, compared to the white pine of their native Carolinas, hardwoods were difficult to work. As a solution, they asked friends and relatives who came later to bring along some pine trees. Then, with foresight, the settlers planted them in their dooryards—a pine apiece for husband and wife. Today, because many of the pines outlived their planters, you occasionally can spot pairs of 150-year-old pines throughout the area.

Photographs: Tim Snyder; Delta International Machinery Corp. Illustration: Jim Stevenson

MAKE THE ARTISAN'S CHOICE



As "the" producer of top end industrial woodworking machines since 1921, Powermatic now focuses their engineering expertise and resources for the craftsman, contractor and home hobbyist.

Responding to **your** expressed needs, the **Artisan's Line** of woodworking machinery was developed. Leading the industry in quality, features, and exceptional value. Available now for little or no more than you'd pay for run-of-the-mill machinery.

- **10" Artisan's Saw** — setting the standard for accuracy, ruggedness and portability with industrial quality Vega fence, built-in dust shroud, T-slot miter gauge and more
- **15" Scroll Saw** — ideal for every shop, with clamp blade holder for ease of blade mount, and chip blower standard
- **14" Drill Press, Bench and Floor Models** — with front mounted switch with removable key; 12 spindle speeds; and a table that elevates by crank, tilts, and rotates
- **Shaper** — with ¾" solid and ½" interchangeable spindle cartridges, exclusive fence with integral dust shroud, and spindle reversing switch

Call your **Powermatic Artisan's Line** distributor today for assistance in selecting the right machines for you.

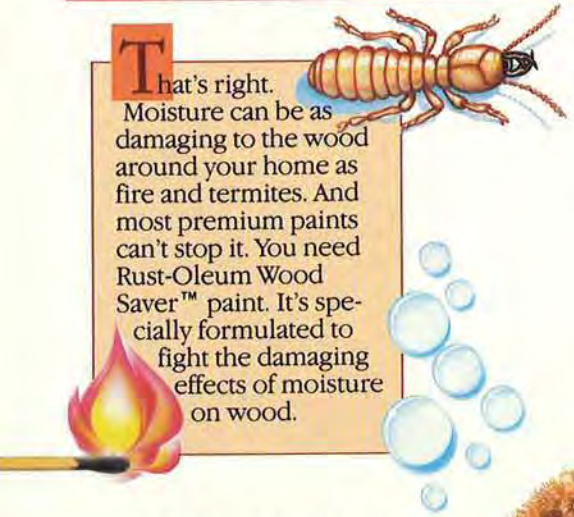
The Artisan's Choice

POWERMATIC

A Division of Stanwich Industries, Inc.
McMinnville, Tennessee 37110
800/248-0144 □ 615/473-5551
TELEX - 554455
FAX # 615/473-7819

Next to Fire and Termites, Moisture is Wood's Biggest Enemy.

That's right. Moisture can be as damaging to the wood around your home as fire and termites. And most premium paints can't stop it. You need Rust-Oleum Wood Saver™ paint. It's specially formulated to fight the damaging effects of moisture on wood.

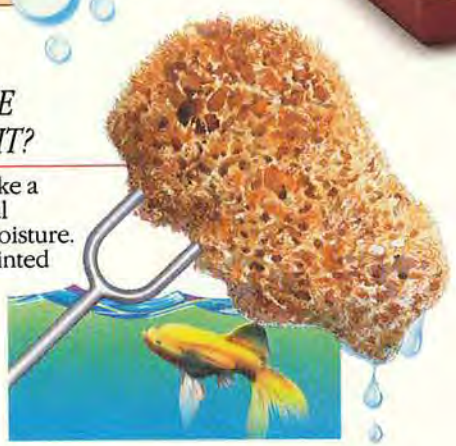


PROOF POSITIVE

Don't just take our word for it. Try pouring a little water onto your window sill or other painted flat wood surface. In a few minutes, you'll see it disappear *into* your wood. On the other hand, water poured on wood painted with Rust-Oleum Wood Saver paint beads and evaporates.

WHAT'S A SPONGE GOT TO DO WITH IT?

Wood is naturally porous, like a sponge. So it needs a special coating to protect it from moisture. And don't be fooled by a painted surface that looks good, because damage to your wood could already be taking place. Now is the time to protect your wood from moisture with Rust-Oleum Wood Saver paint.

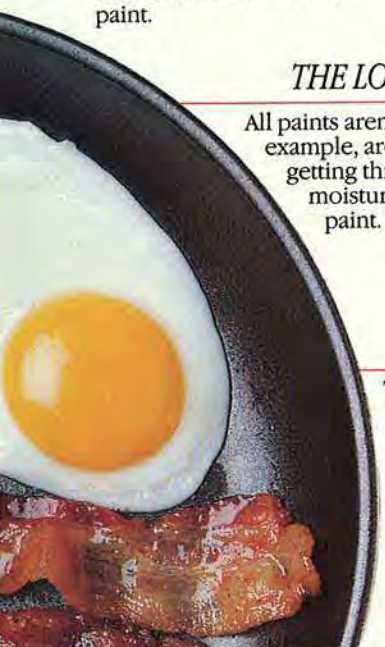


GOING...GOING...GONE

Don't wait. Protect your wood with Rust-Oleum Wood Saver paint. After all, you can replace your paint now...or you could replace your wood later.

THE LOWDOWN ON PREMIUM PAINTS

All paints aren't created equal. Most premium paints, for example, aren't formulated to prevent moisture from getting through to wood. So to protect wood where moisture is a problem, don't just pick any paint. Pick Rust-Oleum Wood Saver paint.



STROKE OF GENIUS

The scientists at Rust-Oleum have made an incredible discovery. They found that TEFLON*, the same ingredient used on frying pans, makes a coat of Rust-Oleum Wood Saver a superior moisture-resistant barrier.

Rust-Oleum Wood Saver.™ If it's going to get wet, get Rust-Oleum.™

RUST-OLEUM® CORPORATION

© 1989, Rust-Oleum Corporation, U.S.A.
*TEFLON® Resin is DuPont's registered trademark.